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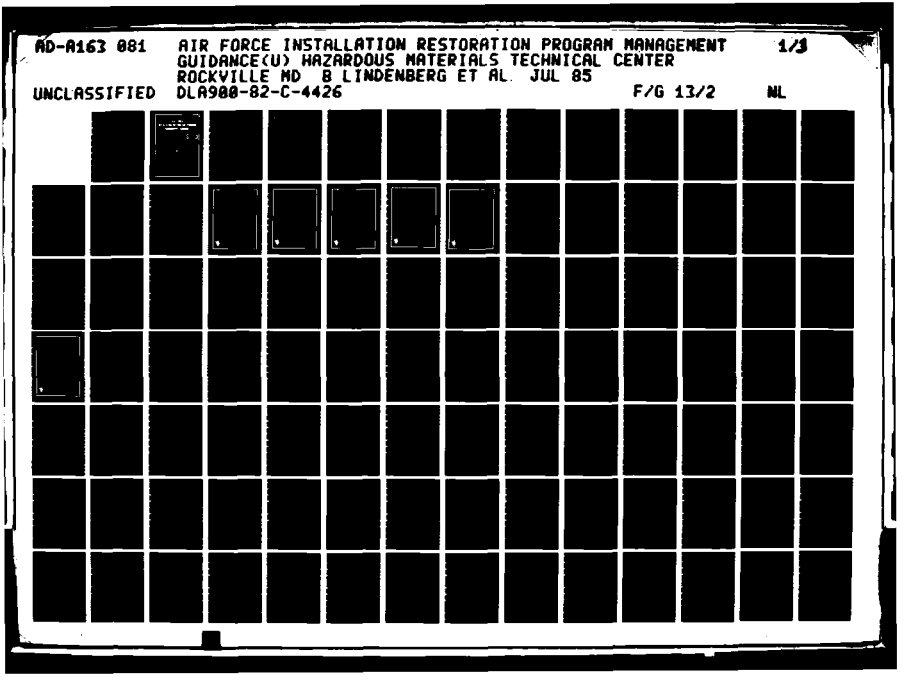

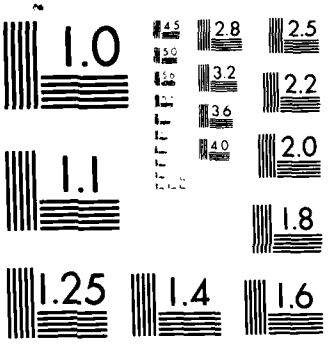

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AIR FORCE
INSTALLATION RESTORATION PROGRAM
MANAGEMENT GUIDANCE

JULY 1985

This edition of the "Air Force Installation Restoration Program Management Guidance" incorporates numerous additions to the previous edition published in January 1984. The changes are intended to transfer to all interested Air Force components the experience we are gaining from managing the Program, and to incorporate relevant policy statements formalized since the previous edition.

AFESC will revise this guidance periodically as the state-of-the-art in planning, designing and constructing remedial actions continues to develop. Air Force components are encouraged to contribute to future revisions by commenting on the utility of the "Guidance" in meeting Air Force objectives for cleaning up specific sites, and by suggesting policy and procedural improvements that will contribute to overall Program success. Comments on this document and questions on the currency of policy and procedures should be directed to the Air Force Engineering and Services Center, Tyndall Air Force Base, FL 32403.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C.
20330-5130

11 JUL 1985

REPLY TO ATTN OF: LEE

SUBJECT: Installation Restoration Program (IRP) Management Guidance

TO: ALMAJCOM DE/SG/PA (except USAFE) AFESC/CC AFRCE-ER/CR/WR

1. The IRP is one of our most sensitive Engineering and Services programs. As with any major program, it depends on support from other staff elements to help insure effective accomplishment. The attached guidance represents the consolidated procedures and concepts used by the major staff agencies to manage the IRP. For the first time, we have one document which spells out who does what and when, and how it should be done. Guidance is never a substitute, however, for good common sense decisions by knowledgeable people. No good decision, particularly in the IRP, can be made in a vacuum. Everyone involved in the IRP must work together closely and use each others expertise and experience throughout the various phases of the program. We know we can count on all organizations to cooperate fully and to work for a successful IRP.

2. You will note that the guidance does not address Phase I. It was decided to delete this phase since, for practical purposes, it is behind us. By the same token, the guidance emphasizes Phase IV since the majority of our cleanup efforts are yet to come. All organizations planning Phase IV efforts should become familiar with this guidance since it will probably be the most sensitive and technically challenging portion of the program. The booklet also contains the current Phase II concept of operations and public affairs guidance. This consolidated guidance document should be the main Air Force policy document governing the IRP. We encourage maximum distribution of this guidance. Thanks for your support.

FOR THE CHIEF OF STAFF

GEORGE E. ELLIS
Lieutenant General, USAF
Deputy Director
Directorate of Engineering & Services

1 Atch
Air Force IRP Management Guidance

cc: SAF/PAM/PAC
AF/SGP
AF/JAC
AF/RDCM
AFAMRL/TH
USAF OEHL/CC

AIR FORCE

INSTALLATION RESTORATION PROGRAM

MANAGEMENT GUIDANCE

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CHAPTER I. INTRODUCTION

The U.S. Air Force, due to its primary mission of defense of the United States, has long been engaged in a wide variety of operations dealing with toxic and hazardous materials. This problem has been recognized by the Department of Defense (DOD), and action has been taken to identify the locations and contents of past disposal sites and to eliminate the hazards to public health in an environmentally responsible manner. The DOD program is called the Installation Restoration Program (IRP).

The HQ USAF/LEE, Directorate of Engineering & Services, Washington, DC, has the overall responsibility for the Air Force IRP. The Air Force Engineering and Services Center (AFESC), Tyndall AFB, FL 32403, provides technical and contractual support for the IRP. The three Air Force Regional Civil Engineering (AFRCE) offices located in Atlanta, Georgia, Dallas, Texas, and San Francisco, California, provide liaison between HQ USAF, AFESC, Major Air Commands, regional EPA offices, state and local regulatory agencies, and the individual Air Force installations.

Current policy for the IRP is contained in Defense Environmental Quality Program Policy Memorandum (DEQPPM) 81-5, dated 11 December 1981. The IRP is defined in DEQPPM 81-5 as a four-phased program including problem identification (Phase I), confirmation (Phase II), technology development (Phase III), and planning and implementation of appropriate control measures (Phase IV). Initial guidance for the four-phased IRP was published in January 1982.

Air Force message 211807Z, January 1982, implements DEQPPM 81-5 for Air Force properties. Air Force guidance for Phase II was originally published in May 1982. The current Phase II guidance is included here as an Appendix. The Air Force IRP Phase IV Management Guidance was published in January 1984. The present document supersedes the 1984 version.

Each phase, its relationship to the overall program, and a comparison of DOD's IRP with the U.S. Environmental Protection Agency's (EPA) Superfund cleanup program are described in the following sections.

A. Phase I - Records Search

Phase I is normally conducted by Engineering and Services. Its Records Searches are usually installation-wide studies. The objectives of this phase are to identify and, on the basis of oral and available written information, assess past disposal sites. The assessment considers whether or not each site may pose hazards to the public health or environment as a result of direct human contact with wastes, contaminant migration to surface or ground waters, or persistence of contaminants in the environment. If a site presents no apparent hazard, it does not proceed to subsequent phases. If a substantial hazard is recognized that presents an imminent threat to public health, an emergency response, which is considered to be a Phase IV action, can be taken. If additional sampling and evaluation are required to confirm suspected hazards or to quantify contaminant migration, Phase II studies are initiated. Sites identified in Phase I are rated by the Air Force's Hazard Assessment Rating Methodology (HARM).

B. Phase II - Confirmation/Quantification

Phase II is normally conducted by the Medical Service using the services of the Air Force Occupational and Environmental Health Laboratory (OEHL), Brooks AFB, Texas 78235. Phase II Confirmation Studies are usually prepared for groups of sites on an installation. Follow-up Quantification Studies may be performed for groups of sites or for individual sites only. The objectives of Phase II are to confirm the presence or absence of contamination; to determine the extent and degree of contamination; and to decide whether no action, emergency response, remedial action, or long term monitoring is appropriate. These objectives are met by either preliminary or comprehensive environmental and ecological surveys. Needs for health effects information for contaminants will be referred to the Surgeon General. Needs for research and development

(R&D) measures recognized during Phase II will be referred to Air Force Engineering and Services Center (AFESC) for initiation of a Phase III effort.

C. Phase III - Technical Base Development

Phase III, which is conducted by Engineering and Services and the Medical Service, includes implementation of research requirements and technology for objective assessment of environmental effects. A Phase III requirement can be identified at any time during the program.

D. Phase IV - Remedial Actions

This phase is usually conducted by Engineering and Services, however, Medical Service may continue to be responsible for long-term monitoring at a particular site. Phase IV Remedial Action Plans (RAPs) may encompass either individual sites, closely spaced groups of sites, or all sites on an installation. The objective of Phase IV is to select and implement control measures that will comply with DOD and Air Force policy regarding past hazardous waste disposal sites. This management guidance outlines acceptable procedures for achieving that objective.

E. Comparison of the Air Force Installation Restoration Program With U.S. Environmental Protection Agency's Superfund Program

The legislative mandate for both Federal and non-Federal programs to remedy uncontrolled hazardous waste disposal sites is the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Public Law 96-510), sometimes referred to as CERCLA or the "Superfund" legislation. Executive Order 12316 of August 14, 1981 delegates the responsibility for response actions at DOD facilities to the Secretary of Defense (see Appendix A). These actions must be consistent with the National Contingency Plan (NCP). Amendment of the NCP is the responsibility of EPA.

Figure 1 illustrates the sequence of steps specified in the NCP for planning and implementing removals and remedial actions.

The Air Force IRP is consistent overall with the NCP as illustrated also in Figure 1. IRP steps are positioned in parallel with equivalent steps specified in the NCP. Differences in terminology are inconsequential. Other differences between the two programs are due to the following factors:

- Phase I of the IRP includes a site ranking step based upon available data obtained during the records search. The NCP does not call for ranking sites until initial field sampling efforts are conducted. The reason for early ranking in the IRP is that Phase I evaluates all sites on an Air Force installation, whereas the NCP is concerned with individual sites. The Air Force relies on its HARM as a resource management tool to screen out lower priority waste disposal sites and to prioritize waste disposal site investigations. In contrast, individual sites brought into the NCP evaluation already show some evidence of high hazards.

- The NCP provides for implementing "operable units" prior to the feasibility study. Operable units are control methods that will be consistent with the finally selected remedial actions and can be put in place without detailed planning. The Air Force IRP has an equivalent option that involves implementation of emergency responses or simple removals where judged necessary by Major Commands.

- Phase III of the Air Force IRP involves development of new technologies. The NCP has no equivalent requirement.

- The NCP does not spell out procedural steps for design, construction, and compliance review as does the IRP. There is no conflict, however, in the programs at this point.

The four phases of the Air Force IRP are illustrated individually in Figures 2 through 5.

Figure 1
COMPARISON BETWEEN EPA'S SUPERFUND AND
USAF INSTALLATION RESTORATION PROGRAM (IRP)

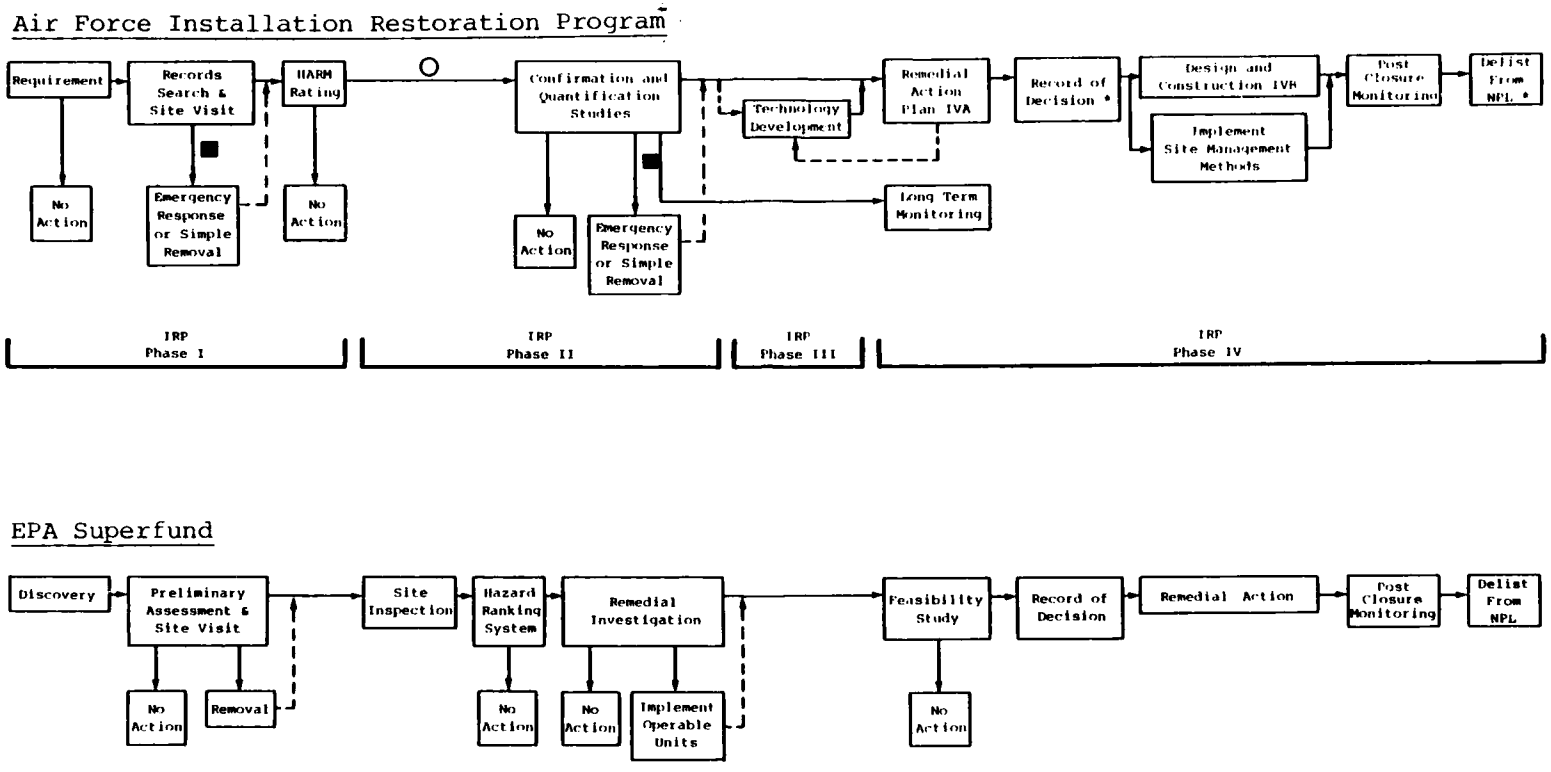


Figure 2
Phase I Installation Restoration Program
and Comparable Superfund Steps

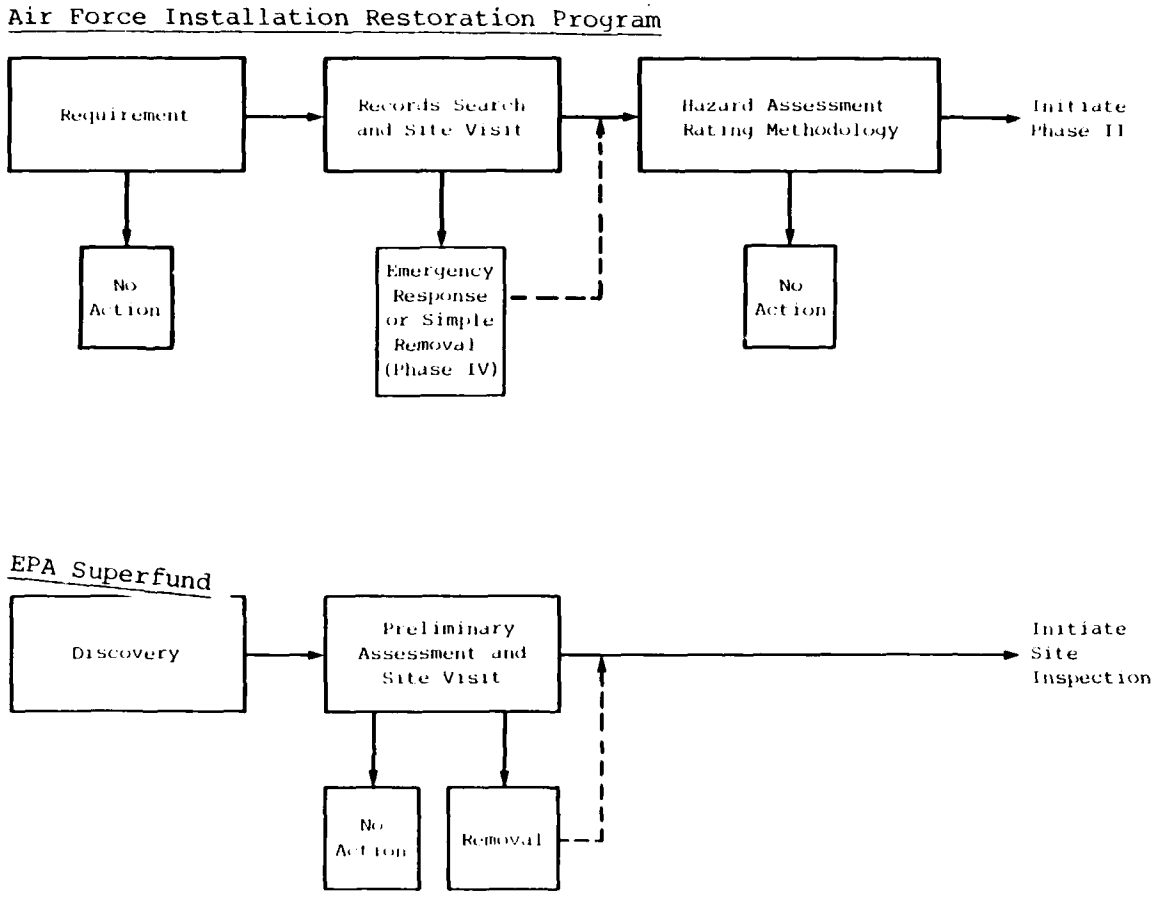
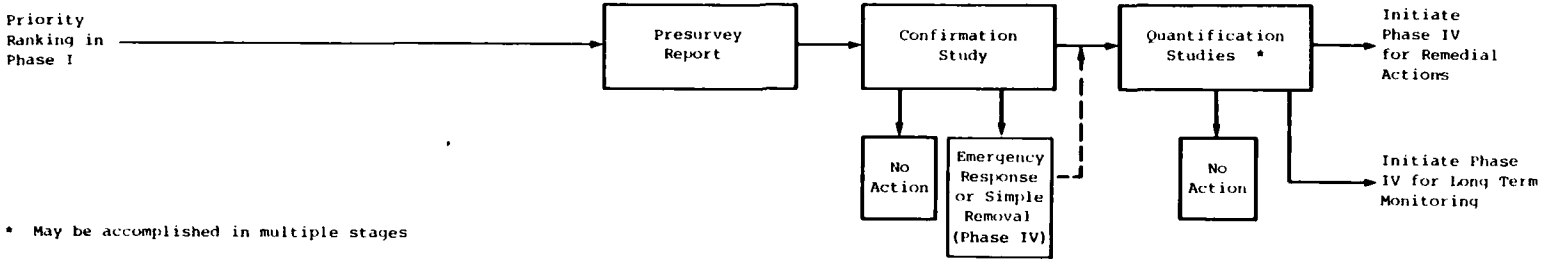


Figure 3
Phase II Installation Restoration Program
and Comparable Superfund Steps

Air Force Installation Restoration Program



* May be accomplished in multiple stages

EPA Superfund

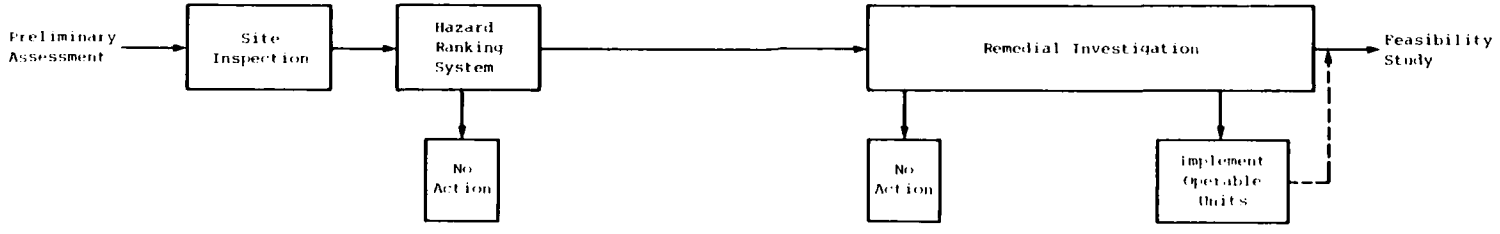


Figure 4
Phase III Installation Restoration Program
(No Comparable Superfund Step)

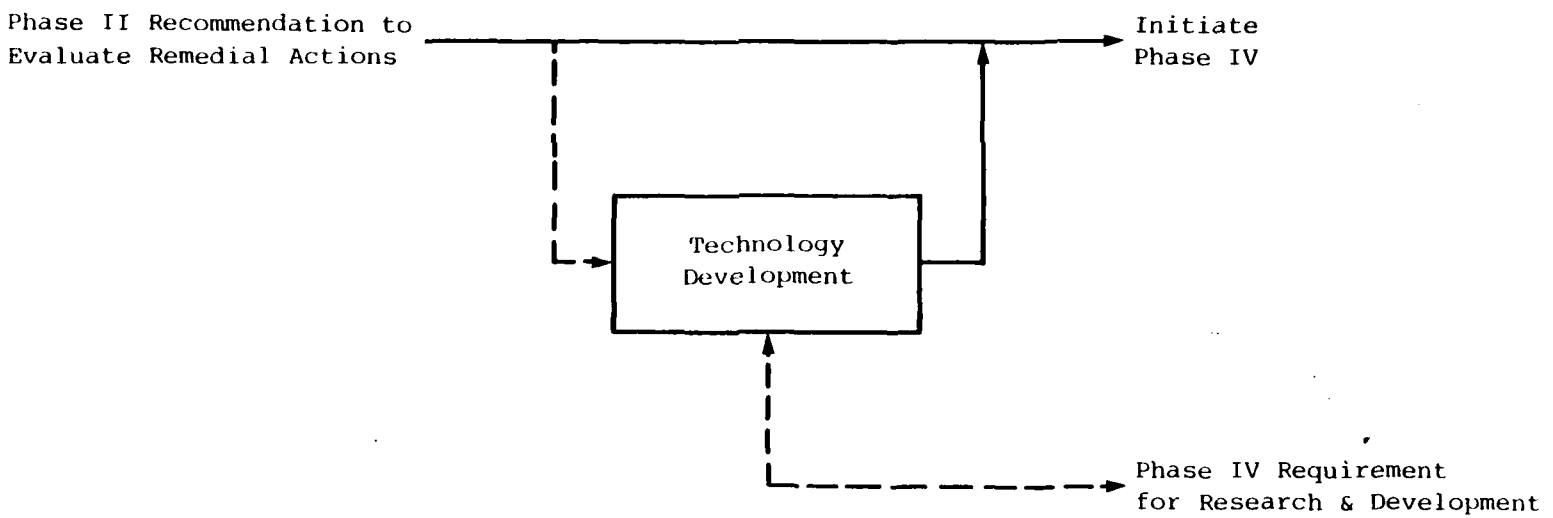
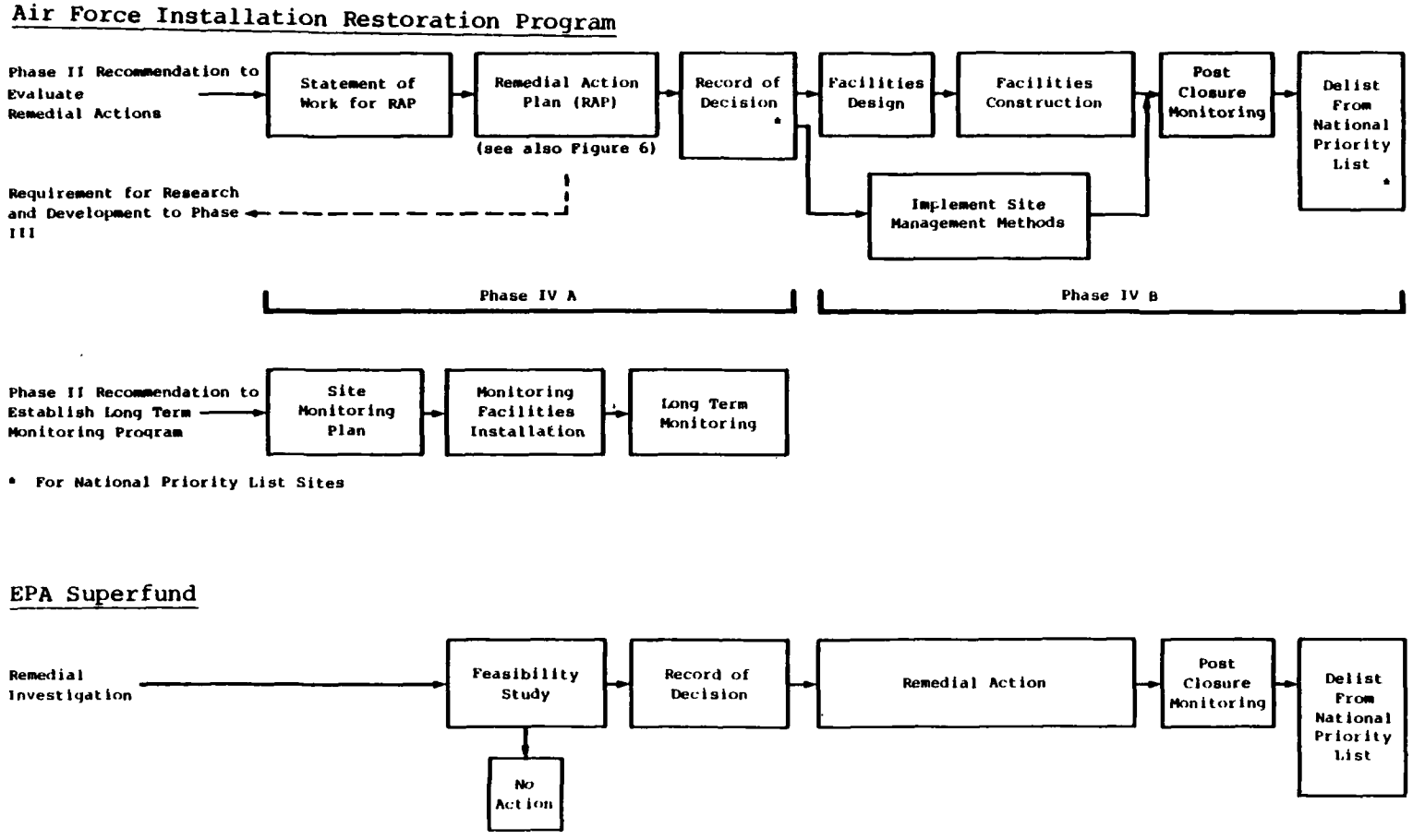


Figure 5
Phase IV Installation Restoration Program
and Comparable Superfund Steps



CHAPTER II. OBJECTIVES AND SCOPE OF THIS MANAGEMENT GUIDANCE

A. Objectives

The objectives of this guidance are to:

- Provide a consistent approach to implement policies and procedures presented in DEQPPM 81-5 and Executive Order 12316;
- Assure that actions to correct environmental hazards resulting from past waste disposal practices are implemented in a timely and cost-effective manner; and,
- Outline procedures for successful completion of Phase IV of the IRP.

This guidance is intended to be in overall agreement with national efforts to control hazardous waste disposal sites. Differences that may be found are in terminology and sequence of activities, not in intent or ultimate resolution of the environmental insult. References to other guidance documents, regulations, and technical literature are included throughout this guidance for those who require more detailed information on a subject.

This guidance is not intended to discourage use of well-informed judgement, innovative solutions, or flexibility in adapting the program to the characteristics of the disposal site, the needs of the affected people, and the overall mission of the Air Force.

B. Scope

This guidance defines those activities that will normally be performed during Phase IV of the IRP for real property owned or managed by the Air Force. It also identifies general responsibilities for performing those activities.

This guidance and the IRP are applicable to sites resulting from unintended releases of hazardous materials in and near operations or training areas and from accidental spills that occurred during past hazardous waste management efforts. It does not apply to future spills or other inadvertent releases of hazardous materials. Planning for such incidents is to be in accordance with the Air Force's "Guidance Manual for the Preparation of Spill Prevention and Response Plans," (AFESC, 1983).

CHAPTER III. PHASE IV RESPONSIBILITIES

A. Implementation Organizations

1. Major Commands (MAJCOMs)

- o Manage Phase IV activities for installations within the command including prioritizing requirements and distributing funds;
- o Review installation's decisions on emergency responses;
- o Fund emergency responses;
- o Review installation's emergency response documentation;
- o Prepare RAP statement of work (SOW) and RAP with technical support from AFESC/DEVP;
- o Act as proponent of installations' RAPs;
- o Coordinate public affairs activities with installation public affairs office;
- o Coordinate with MAJCOM/SG and AFESC/DEVP;
- o Formulate and promulgate guidance on design, construction, and construction management of remedial actions;
- o Provide technical support in design of remedial actions; and,
- o Coordinate postclosure monitoring requirements.

2. Installations

- o Serve as point of contact and provide onsite support for IRP contractor activities;
- o Determine immediacy of site's threat to public health;
- o Select emergency response methods;
- o Implement emergency responses;
- o Coordinate with MAJCOMs on emergency responses;

- o Document determination of immediacy and rationale for selection of emergency responses;
- o Prepare plans and specifications for remedial actions;
- o Coordinate contracting for remedial actions;
- o Implement RAPs;
- o Coordinate with MAJCOM on construction management approach;
- o Coordinate with Medical Services on compliance review for remedial actions;
- o Program operation and maintenance (O&M) funds for post-closure activities; and,
- o Identify IRP actions in RCS:DD-M (SA) 1383 (OMB A-106 Process).

B. Policy and Technical Assistance Organizations

1. Environmental Division of Air Force Headquarters, Policy and Assessment Branch (HQ USAF/LEEVP)

- o Develops and reviews program policy;
- o Manages Defense Environmental Restoration Account (DERA); and,
- o Chairs AFIRM Committee.

2. Air Force Engineering and Services Center, Assessments and Protection Division of the Environmental Planning Directorate (AFESC/DEVP)

- o Provides program guidance;
- o Provides program support to the major commands; and,
- o Provides technical support for contract management, development of RAPs, and design of remedial actions.

3. Air Force Engineering and Services Center, Environics Division (AFESC/RDV)

- o Provides support to the major commands for technology assessment and R&D in coordination with AFESC/DEVP.

4. Air Force Regional Civil Engineers (AFRCE)

   - Coordinate appropriate IRP activities with EPA and State regulatory agencies; and,

   - Participate in technical program reviews in accordance with their charter for intergovernmental and interagency responsibility as stated in AFR 19-9.

5. Air Force Medical Service (AF/SGES)

   - Provides monitoring support;

   - Provides support to the major air commands for health effects information and research and development;

   - Participates in technical program reviews; and,

   - Participates in development and implementation of long term and postclosure monitoring requirements.

C. Program Quality Assurance

Air Force Installation Restoration Management (AFIRM) Committee (see Appendix B for a copy of the AFIRM charter).

- Serves as focal point for transfer of remedial action technologies and management techniques among Air Force organizations;

- Reviews RAPs submitted by the MAJCOMs to assure a consistent and cost-effective approach to waste site cleanup;

- Reviews and proposes program management guidance;

- Establishes Air Force priority for Phase IV actions;

- Establishes Air Force priority for funding under the DERP and/or recommends priorities for other funding programs;

- Identifies R&D requirements for advanced remedial technologies to support the IRP.

D. Responsibility Summary

The responsibilities described in this chapter are summarized in Table 1.

Table 1. Phase IV Responsibilities

ACTIVITY	MAJOR COMMAND	INSTALLATIONS	HQ USAF/LEEVP
Phase IV Management	Manage Phase IV for installations. Prioritize requirements & distribute funds. Coordinate public affairs activities with installation public affairs officers. Provide coordination with MAJCOM/SG & AFESC/DEVP.	Provide onsite support for contractors. Program O&M funds for post-closure activities. Identify IRP actions in RCS:DD-M 1383.	Develop IRP policy. Approve distribution of funds from Defense Environmental Restoration Program.
Emergency Response and Simple Removal Implementation	Review installation decisions Fund emergency responses. Review response documentation.	Make determination on immediacy of site's threat to public health. Select response method. Implement response. Coordinate with MAJCOM. Document determination of immediacy & rationale for response selection.	
Remedial Action Implementation SOW for RAP	Responsible for preparation.	Technical Review.	
RAP	Responsible for preparation. Proponent of RAP.	Technical Review.	
Remedial Action Design	Provide technical support.	Responsible for preparation.	
Construction	May provide Title II services (construction management).	Responsible for implementation.	
Compliance Review	Technical review. Coordinate post-closure monitoring requirements.	Coordinate with Medical Service.	

Table 1. Phase IV Responsibilities (Continued)

AFESC/DEVP	AFESC/RDV	Medical Service	Regional Civil Engineers	AFIRM
Provide program management guidance.	Provide R&D support.			Focal point for transfer of technologies & management guidance. Establishes priorities for Phase IV actions. Identifies R&D requirements.
Provide technical and contract management support.		Provides health threat assessment information to Installations.		
Provide technical & contract management support.		Technical review.	Technical review.	
Provide technical & contract management support.	Provide support for technology assessment & R&D (coordinated through the AFIRM Committee).	Technical review.	Distribute RAPS to regulatory agencies as requested by MAJCOM. Expedite review process. Resolve conflicts.	Review preliminary draft RAP and prepare draft record of decision paper for all other sites.
May provide technical & contract management support.		Technical review.	May provide contract management support.	
May provide Title II services (construction management).			May provide Title II services (construction management).	
	Review post-closure monitoring results.	Participate in development of post-closure monitoring requirements.		

CHAPTER IV. MATCHING PHASE IV ACTIONS TO PROJECT REQUIREMENTS

It is Air Force policy that hazards to public health from past uncontrolled disposal sites be corrected in a timely, cost-effective, and environmentally responsible manner. In complying with this policy, it must be understood that the process of selecting the best measures for controlling disposal sites, as well as the construction measures, requires time and money. The selection process, therefore, should be as thoughtfully designed as the control measures that are finally implemented. In the long term, underdesign of either the selection process or the control measures can be as contrary to Air Force policy as overdesign.

Resources devoted to project planning and to preparation of related documentation should be appropriate to the degree and immediacy of the hazards and the technical complexity of the site and possible control measures. Early assessment of the degree and immediacy of hazards posed by a site may determine whether the relevant control measures should be applied immediately (emergency responses and simple removals), can await detailed planning (remedial action), will require continued observation (long term monitoring), or should include a combination of these three broad response categories. These three response categories are discussed in this chapter.

A. Emergency Responses and Simple Removals

An immediate and substantial threat to public welfare posed by a disposal site may be identified at any time in the IRP. A threat is immediate when the need to quickly apply control measures clearly outweighs the benefits of deliberate planning. Implementation of emergency responses is considered to be a Phase IV activity.

Upon identification of an immediate and substantial threat, an onsite coordinator will be appointed by the base civil engineer. The onsite coordinator will prepare a preliminary assessment of the situation and, to

reduce the threat, will take action to implement one or more of the following measures:

- o Fences, warning signs, or other means of limiting access to a site;
- o Drainage controls;
- o Stabilization of berms, dikes, or impoundments;
- o Capping of contaminated soils or sludges;
- o Recovery of petroleum products floating on groundwaters;
- o Removal of contaminated soils;
- o Removal of bulk containers and contents;
- o Provision of an alternative water supply; and/or,
- o Other actions taken to mitigate the immediate threat.

The onsite coordinator will coordinate financial and technical decisions with MAJCOM. Environmental assessments, RAPs, and other reports normally prepared prior to project implementation will not be required for emergency responses. However, in cases where the emergency response itself will have a significant adverse environmental impact, the onsite coordinator will report the situation to MAJCOM as promptly as possible, and MAJCOM will report to AF/LEEV. In all cases, the onsite coordinator will document his rationale for selection of the response within a reasonable time after implementation. This documentation will be reviewed by MAJCOM and will be available to regulatory authorities. The onsite coordinator is also responsible for taking all necessary measures to protect workers and for documenting those measures.

Implementation of an emergency response does not necessarily preclude the need for further remedial actions or long term monitoring.

Simple removals also may be implemented by installations prior to completion of RAPs and associated documents. Simple removals can involve any of the measures listed for emergency responses plus other control measures that can

be completed without threat to worker health and safety. If a worker health and safety plan is needed to reduce this threat during simple removals, it will be prepared by the installation civil engineer and approved by MAJCOM prior to initiating site work. Any measure implemented as a simple removal must be cost-effective and consistent with any permanent remedy that may be selected subsequently as a result of remedial action planning. Prior to design or construction of simple removals, a brief decision paper will be prepared and approved by MAJCOM. The decision paper will describe the site's history and statement of the problem; and it will substantiate that the simple removal will be cost-effective and consistent with any permanent remedy. The decision paper will be prepared by the installation civil engineer and will be signed by the appropriate MAJCOM official.

B. Remedial Action

With or without emergency responses, many sites will require permanent control of contaminant sources or migration or both. Remedial actions are technologies and management methods implemented to achieve permanent control.

Generally more expensive than emergency responses, remedial actions normally will be complex and require more detailed evaluation. The process of evaluating alternative control measures, selecting the best, and describing them in detail will be documented in the RAP. The RAP normally will be prepared under contract. The contractor's effort is described in a SOW, whose preparation is the first step in Phase IV-A. To prepare the SOW, MAJCOM must make assumptions about the complexity of each disposal site. Based on those assumptions, MAJCOM will select appropriate work efforts to be included in Phase IV-A. Factors that contribute to project complexity and possible means of responding to them are listed in Chapter V-A., "Preparation of the Statement of Work." The remainder of Chapter V discusses preparation of the RAP.

Design and construction of control measures specified in the RAP are encompassed in Phase IV-B. This final stage of the IRP is discussed in Chapter VI.

C. Long Term Monitoring

Long term monitoring is a program of water, soil, or sediment analysis intended to track the occurrence or possible future migration of contaminants. Long term monitoring may be performed as the only follow-up to Phase II studies if the threat posed by a site is not sufficient to warrant remedial action but may require remedial action at some future date if status changes occur.

Long term monitoring will be considered a Phase IV activity performed by the Medical Service (see AFR 19-7).

When approval of long term monitoring is granted, the MAJCOM may either implement the monitoring program immediately using available local resources (with analytical support provided by USAF OEHL) or, if a complex monitoring effort is needed, request that USAF OEHL develop a site monitoring plan (SMP) for execution by contractor with transition to a base level sampling program if more than a one-year program is required.

The SMP will include:

- Expanded details (standing operating procedures) of the sampling methodology;
- Quality assurance requirements;
- Analytical and data reporting requirements;
- Resource requirements (labor, equipment, materials);
- Conditions that could trigger a reevaluation of the long term monitoring decision; and,
- Community relations planning.

The decision to perform long term monitoring is subject to revision if subsequent rounds of sampling and data analyses show an adverse change in site status.

Chapter V. IMPLEMENTATION OF PHASE IV-A

Remedial actions normally will be selected, designed and constructed in two distinct stages.

Phase IV-A begins with written notification of MAJCOM Engineering and Services by MAJCOM Medical Service that Phase II for a site or sites has been completed with a recommendation for remedial action. MAJCOM Engineering and Services then initiates Phase IV preparation of a SOW to conduct a RAP. The SOW specifies those contractor efforts needed to conduct and document the RAP and to describe the selected remedial action. Review and approval of the RAP completes Phase IV-A. In accordance with the public affairs guidance (see Appendix C), the public must be kept fully informed of all IRP activities.

The second stage, Phase IV-B, includes design and construction of the remedial action, and development of the postclosure monitoring program, if needed. Phase IV-B is discussed in Chapter VI.

MAJCOMs may decide to perform all or parts of Phase IV internally. However, because of limited resources it is assumed that contractor support will be required for most Phase IV efforts.

A. Preparation of the Statement of Work (SOW)

A SOW must be prepared particularly where contractors will prepare the RAP. The SOW will describe tasks, establish a schedule for conducting the tasks, list all expected deliverables, and present an estimate of costs to do the work. The SOW provides a transition from prior site evaluation and testing (Phases I and II) to selection and design of remedial actions. The SOW, excepting any estimates of labor or costs to do the work, will be used in contract actions. As with other technical studies and reports, MAJCOMs may prepare the SOW, have a contractor prepare the SOW, or request technical support from AFESC/DEVP.

Preparation of a SOW for a site or group of sites begins when, at the completion of Phase II, Medical Service has recommended these sites for remedial action or when monitoring reveals that cleanup actions are required, and any other indicators demonstrate that rapid response is required. SOW preparers will review Phase I and Phase II reports and any other relevant documentation provided by MAJCOMs and other agencies to assess problem history, field investigation information, and prior recommendations and conclusions. The SOW preparer should meet with the base civil engineer, base contracting officer, base bioenvironmental engineer and MAJCOM representatives who are managing Phase IV-A, and with personnel who are most familiar with the Phase II studies and recommendations. The public affairs officer and the Staff Judge Advocate should also attend. Cognizant regulatory agencies should receive advance notice of the meeting and should be invited to attend. The agenda for the meeting will include consideration of:

- Previous studies;
- Requirements for additional site investigation;
- Technical or organizational complexity;
- Public controversy and community relations planning;
- RAP contractor's participation in coordination with regulators;
- Environmental sensitivity and documentation;
- Public health significance of the uncontrolled site(s);
- Unique site characteristics; and,
- Schedule for task completion.

The meeting should also include a visit to all sites to be included in the SOW.

Table 2 identifies some of the factors that may increase the complexity of RAP preparation. Steps that might be taken, including modifications in a SOW, that would account for these factors are also identified.

Table 2

Complicating Factors in the Preparation of RAPs
and Possible Responses

COMPLICATING FACTORS	POSSIBLE RESPONSES
Technically Complex	
Multiple technologies or management methods required	- Include construction management options in evaluation of management methods
	- Add intermediate alternative development and evaluation steps for more thorough evaluation of control measure combinations
Phased implementation of technologies or management methods expected	- Consider implementation of easily installed control measures while RAP is being developed
	- Include construction management options in evaluation of management methods
Sensitivity analysis of costs shows that key design or performance data are required in order to select the optimum alternatives	- Conduct bench testing and/or pilot studies
	- Conduct waste characterization studies
Subsequent decisions for other sites may alter costs, design, or impacts of alternatives to be considered	- Duplicate alternative development and evaluation steps for entire group of sites using best available data
	- Expand cost sensitivity analysis to consider economies of scale in treatment, construction, and residual disposal

Table 2 (Continued)

Complicating Factors in the Preparation of RAPs
and Possible Responses

High Cost	
Anticipated construction costs greater than $2 million or	- Consider innovative technologies and management methods
Anticipated operations, maintenance, and replacement costs greater than $0.3 million per year	- Request Phase III analysis by AFESC/RDV through AFESC/DEV
Public Controversy	
Events at the site have received substantial media coverage, or	- Develop community relations plan to respond to actual or expected concerned parties
Private property owners perceive themselves as being affected by the site, or	- Have public affairs officer monitor communication through installation Engineering and Services with consultants
Local community organizations have expressed concern with the site, or	- Provide sufficient level of effort in Phase IV-A SOW for contractor to respond to technical inquiries and to participate in public meetings
Sites are having, or are expected to have, adverse effects on current points of water use	- Contract public relations consultant to work with public affairs office, technical consultants, Engineering and Services, and the public
	- Establish a Technical Review Committee comprised of selected representatives of military, government and public interests to review progress and results

Table 2 (Continued)

Complicating Factors in the Preparation of RAPs
and Possible Responses

Organizationally or Legally Complex	
Non-military waste sources suspected of contributing to contamination	- Expand monitoring to include off-base sampling locations as necessary
	- Continue to evaluate control of military's waste sources
	- Refer non-military waste sources to cognizant state agencies and EPA for action
Responsibility for waste sources shared with other MAJCOM or DOD organizations	- Refer situation to USAF/LEEV for designation of lead organization if not already accomplished in earlier phase
	- Include analysis of O&M cost distribution between organizations in description of RAP
Responsibility for waste source shared with EPA	- See "Memorandum of Understanding Between DOD and EPA," Appendix E
Air Force does not possess complete property rights in the site	- Coordinate with USAF/JA on legal limitations to alternatives' implementation
Listed on National Priority List	- Prepare and follow written Community Relations Plan in accordance with EPA guidance (EPA, 1983)
	- Allow time and effort in SOW for contractor to participate in Community Relations Plan
	- Record of Decision will be prepared by AFIRM committee and MAJCOM and included in Final RAP

Table 2 (Continued)

Complicating Factors in the Preparation of RAPs
and Possible Responses

Significant Public Health or Environmental Effects	
Any detailed alternative has a reasonable chance of becoming the remedial action of choice and will have unavoidable public health or environmental effects	- Coordinate with USAF/LEEV on need and requirements for preparation of an Environmental Impact Statement (EIS)
Conventional control measures may not achieve water quality standard at points of water use	- Evaluate use of alternative water supplies - Evaluate effectiveness of innovative control measures - Work with regulatory agencies to determine which alternative offers maximum protection of public health and the environment and that can be permitted

Appendix D is a generic SOW that suggests format and wording that should be modified for inclusion in a site-specific SOW. Optional tasks are described that would be appropriate for responding to some of the complicating factors listed in Table 2.

After a SOW is approved by MAJCOM, it will be provided to cognizant regulatory agencies.

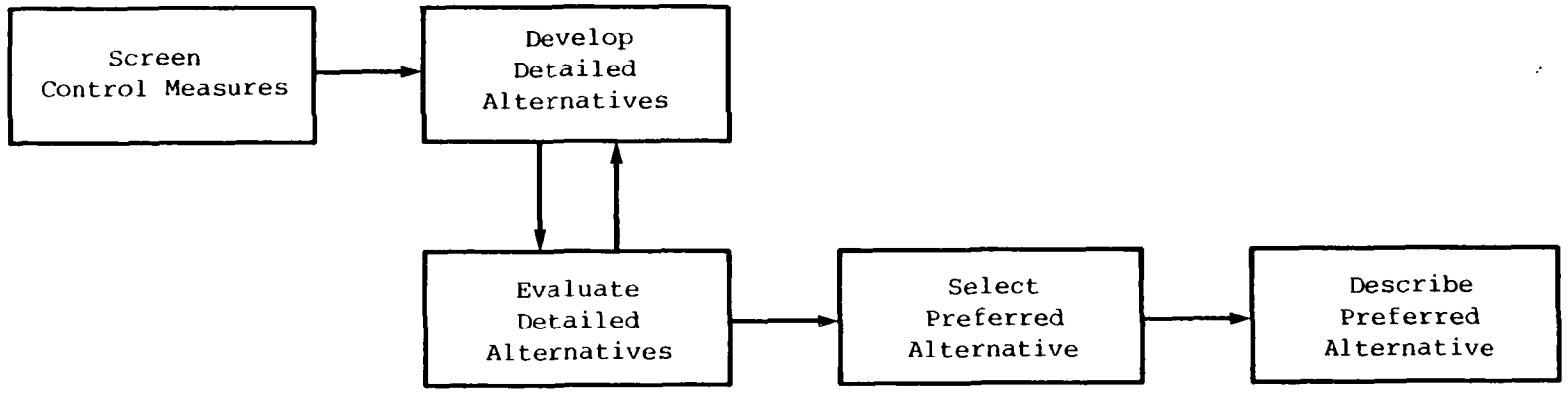
B. Prepare Remedial Action Plan

The RAP is a five-step process by which remedial actions are selected and described. In the first step, control measures, including both management methods and technologies, are screened for their applicability to specific site problems. Individual control measures or reasonable combinations of control measures that pass the screening process are then developed into detailed alternatives, each of which represents a comprehensive solution to the site's actual or potential hazards. The detailed alternatives are described in sufficient detail to permit the completion of the third step, evaluation according to engineering, public health, environmental, cost and regulatory compliance criteria. Following the evaluation, a preferred alternative is selected for implementation. The final step includes a thorough description of the preferred alternative. This process is illustrated in Figure 6.

The RAP will document all phases of the process, including evaluations and rationales for key decisions. Historical data documented in Phase I and II reports need not be repeated in the RAP.

For sites listed on the National Priority List, a Community Relations Plan should be prepared as part of the RAP.

Figure 6
PREPARATION OF REMEDIAL ACTION PLAN



1. Screen Control Measures

All management methods and technologies that could possibly remedy site problems will be reviewed. The review will eliminate those that are not appropriate to specific site problems.

Feasibility, cost, and environmental and public health protection should be the primary criteria for evaluating control methods, although other criteria may be considered when appropriate. This process is usually performed with emphasis placed on judgement. It is MAJCOM's and AFESC's responsibility to select contractors whose expertise and experience demonstrates such judgement. MAJCOMs are also responsible for ensuring that the technical basis for these judgements is sufficiently documented in the RAP.

Control measures should not be eliminated due solely to their apparent inability to meet regulations or contaminant standards, as they may be useful in combination with other methods. A comprehensive list of control measures is included in Table 3.

Measures that achieve waste minimization, destruction, or recycling should be given thorough consideration. It is anticipated, with ongoing research, that new technologies will be developed. They should also be considered in this review process.

Additional information on control measures is provided in EPA's "Handbook for Remedial Action at Waste Disposal Sites," and "Handbook for Evaluating Remedial Action Technology Plans," as well as in the U.S. Army Corps of Engineers' "Preliminary Guidelines for Selection of Remedial Systems for Uncontrolled Hazardous Waste Sites."

Table 3. Control Measures

Groundwater Control Technologies

- Capping
- Groundwater Pumping
- Impermeable Barriers
- Subsurface Collection Drains
- Surface Water Diversion and Collection
- Permeable Treatment Beds
- Grading
- Revegetation
- Bioreclamation

Soil and Sediment Control Technologies

- Capping
- Grading
- Revegetation
- Surface Water Diversion and Collection
- Leachate Collection
- Excavation and Removal

Surface Flow Control Technologies

- Capping
- Grading
- Revegetation
- Surface Water Diversion and Collection
- Seepage Basins
- Sediment Basins
- Leachate Collection
- Surface Water Treatment

Air/Soil Pore Space Control Technologies

- Capping
- Gas Ventilation
- Gas Collection and Treatment
- Gas Barriers

Drinking Water and Sewer Line Control Technologies

- Pipeline Removal or Replacement
- Leak Detection and Repair
- In situ Cleaning

Table 3. Control Measures (Continued)

Air Pollution Control Technologies

- Capping
- Dust Control

Land Disposal/Storage Technologies

- Landfills
- Surface Impoundments
- Waste Piles
- Deep Well Injection
- Temporary Storage
- Land Application

In Situ Treatment Technologies

- Bioreclamation
- Chemical Dechlorination
- Hydrolysis
- Neutralization
- Oxidation
- Permeable Treatment Beds
- Polymerization
- Reduction
- Soil Aeration
- Solvent Flushing
- Chemical Precipitation

Direct Treatment Technologies

- Incineration
- Activated Carbon Absorption
- Air Stripping
- Steam Stripping
- Aerated Lagoons
- Stabilization Ponds
- Biochemical
- Neutralization
- Precipitation
- Oxidation
- Hydrolysis
- Reduction
- Dechlorination
- UV/Oxidation
- Flow Equalization
- Flocculation
- Sedimentation

Table 3. Control Measures (Continued)

- Filtration
- Ion Exchange
- Reverse Osmosis
- Liquid/Liquid Extraction
- Oil/Water Separation
- Steam Distillation
- Air Stripping
- Dissolved Air Flotation
- Solidification
- Stabilization
- Fixation

Management Methods

- Land Use Controls
- Alternative Water Supplies
- Right-of-Way Acquisition
- Personnel Supervision and Training
- Permanent Relocations
- Coordination with Federal, State, and Local Agencies

2. Develop Detailed Alternatives

Whereas the review of control measures evaluates one technology or management method at a time, each detailed alternative should be a comprehensive solution to site problems and could include multiple control measures. In this step, the detailed alternatives are developed from the measures previously found to be applicable.

In the process of developing a set of alternatives for this evaluation, it should be recognized that many combinations of control measures would not be feasible. As with the review of individual control measures, feasibility, cost, and environmental and public health impacts will be used to screen combinations of control measures. Judgement should be used in rejecting combinations that are not feasible. Documentation of this screening process may be limited to listing those combinations that appear to constitute complete alternatives, then providing a brief explanation rejecting each of those that are not considered in detail. As proponents of the RAP, MAJCOMs will be prepared to respond to public and regulatory agency inquiries about alternatives that were screened out at this point.

The final set of alternatives should represent a broad range of solutions to site problems. In addition to alternatives that can be expected to achieve or exceed applicable public health or environmental standards, alternatives that may not achieve the standards will also be considered if they will prevent or substantially minimize migration of contaminants from the site.

The final set of alternatives must also include a No Action alternative. The No Action alternative serves as a baseline against which project costs and changes in environmental effects and public health threats can be compared. To the extent that emergency response measures have previously been applied to a site, the No Action alternative will assume that they will be maintained. Nonstructural, low cost control measures such as land use or groundwater use restrictions may also be included. The purpose of developing a No Action alternative is not to create reasons for its being rejected. The No Action alternative will be evaluated to the same level of detail as action alternatives and will be described so that they are as viable as possible.

Where appropriate, long term monitoring should also be considered as an alternative independantly of construction or excavation-oriented alternatives.

If additional information is necessary for making judgements during the evaluation and selection process, waste characterization studies may be necessary. If the need for bench scale or pilot studies becomes apparent, MAJCOMs should coordinate with Medical Service to determine the most efficient way to conduct the studies. Additional performance or design information may also be necessary when evaluating innovative technologies. This information should be sought from AFESC/RDV through the AFIRM committee or with a statement of need through MAJCOM.

The alternatives must be described to a level of detail sufficient to support careful analysis by the criteria discussed later in this chapter and to facilitate the objective selection of one preferred alternative. The appropriate level of detail will vary from site to site. Descriptions of each detailed alternative should include at a minimum:

- Identification of technologies incorporated;
- Key design assumptions that will affect performance, implementability, environmental impact, or cost;
- Measures needed to ensure worker safety during implementation;
- Identification of management methods incorporated such as land use controls, right-of-way acquisition, personnel training and supervision, permanent relocations and coordination with Federal, State and local agencies;
- Identification of measures required to mitigate environmental impacts of construction and operation; and,
- Costs.

The cost information should include estimates of capital, O&M costs, present worth analysis, and sensitivity analysis. Information on cost estimates and cost analysis is provided in EPA's "Costs of Remedial Response Actions at Uncontrolled Hazardous Waste Sites," "Remedial Action Costing

Procedures Manual," "Handbook for Remedial Action at Waste Disposal Sites," and "Handbook for Evaluating Remedial Action Technology Plans." Other sources of cost estimates are the Means Guide, the Walkers Guide, construction contractors, equipment vendors, U.S. Department of Labor, U.S. Department of Energy (energy costs), and estimates developed from similar projects.

Following the estimation of costs, a present worth analysis should be prepared. This is a method by which expenditures occurring over different time periods are evaluated by discounting future costs to a common base year. The discount rate stated in the version of OMB Circular A-94 current at the time of publication of the Preliminary Draft RAP should be used. A period of performance for each detailed alternative should be determined, but should not exceed 30 years.

A sensitivity analysis should then be developed for each detailed alternative. This analysis assesses the effects of variations in parameters associated with design, implementation, operation, and effective life that could result in a significant change in overall costs. Some primary considerations should be given to the following with regard to sensitivity analysis for detailed alternatives:

- o Time necessary for cleanup;
- o Extent of cleanup;
- o Useful life of equipment; and,
- o O&M Costs.

This step can aid in optimizing the design of detailed alternatives.

Additional information useful in developing detailed alternatives is provided in EPA's "Handbook for Remedial Action at Waste Disposal Sites," "Case Studies 1-23: Remedial Response at Hazardous Waste Sites," "Handbook for Evaluating Remedial Action Technology Plans," and the U.S. Army Corps of Engineers' "Preliminary Guidelines for Selection of Remedial Systems for Uncontrolled Hazardous Waste Sites."

3. Evaluate Detailed Alternatives

The description and evaluation processes are discussed separately in this guidance. This presentation reflects the documentation of these processes in a RAP. However, in practice, the processes are interdependent and should be performed concurrently. The evaluation criteria, discussed in following sections, should be used during the development of detailed alternatives to identify and incorporate information that is significant to the evaluation process. During the evaluation of detailed alternatives, it may be recognized that more information should be developed before further evaluations can be made. Both the development and evaluation of detailed alternatives are mutually supporting.

Engineering Feasibility

The applicability of individual control measures to specific sites will have been considered during the review of control measures. However, other elements of engineering feasibility will be addressed including performance, reliability and implementability.

The performance evaluation should consider the effectiveness and useful life of technologies incorporated in each detailed alternative. This evaluation will provide necessary input to the public health analysis and the environmental assessment.

Effectiveness is the degree to which a detailed alternative will perform its intended function. For widely used, conventional technologies, effectiveness can be assessed from information provided in texts and the open literature. For unusual applications of conventional technologies or for technoloies that have not been fully demonstrated, actual performance data under similar site conditions should be sought. Design specifications, construction methods, and maintenance play a significant role in ensuring the effectiveness of many control measures. The extent to which these factors may influence effectiveness should be discussed.

The useful life of a detailed alternative is the length of time it can maintain its intended level of effectiveness. Many remedial technologies will deteriorate with time, regardless of the level of operation and maintenance applied, and will eventually require some degree of replacement. Predictable requirements for replacements should, therefore, be addressed. Estimates of the useful lives of specific equipment or facilities can be based on information gathered from suppliers and from performance histories for applications other than hazardous waste control.

Implementability is a measure of an alternative's relative ease of installation or construction and the time necessary for it to become effective. The construction of an alternative can be affected by the ease of obtaining necessary permits, the availability of construction equipment, and the availability and acceptability of offsite disposal facilities. The timeliness of implementation includes the time required for studies, design, receiving permits, construction, and other related activities as well as the post-construction time required to achieve beneficial results.

Reliability is the measure of an alternative's capability to maintain its effectiveness over a given span of time and is a direct function of O&M.

Additional information useful in evaluating the engineering feasibility of detailed alternatives is provided in EPA's "Handbook for Remedial Action at Waste Disposal Sites," "Case Studies 1-23: Remedial Response at Hazardous Waste Sites," "Handbook for Evaluating Remedial Action Technology Plans," and the U.S. Army Corps of Engineers' "Preliminary Guidelines for Selection of Remedial Systems for Uncontrolled Hazardous Waste Sites."

Cost Analysis

The three elements of a cost analysis (i.e., cost estimation, present worth analysis, and sensitivity analysis) were discussed previously in conjunction with the description of alternatives.

The cost analysis section of the alternatives evaluation chapter should include a table summarizing for each detailed alternative:

- o Capital costs;
- o O&M costs;
- o Best estimate of the present worth; and,
- o Range of present worth calculated from the sensitivity analysis.

Also, major uncertainties in costs should be discussed, and recommendations should be made for dealing with them.

Environmental Assessment

Assessment of the environmental impact of each detailed alternative is an integral part of any IRP RAP. This assessment may be conducted by a contractor preparing the RAP, by an independent contractor hired for this purpose, or by personnel from the Environmental Planning Function (EPF) as provided in AF Regulation 19-2, "Environmental Impact Analysis Process" (EIAP).

The full text of the environmental evaluation of alternatives will be published as a stand-alone document; that is, as a CATEX, an Environmental Assessment (EA) or, where required, an Environmental Impact Statement (EIS). The RAP documents may summarize the conclusions of the EIAP.

The environmental assessment of the No Action alternative should:

- o Determine the value or uses of the land, water, air, and biotic resources that are, or threaten to become, contaminated;
- o Identify and, to the extent practicable, quantify environmental impacts that exist or are likely to develop; and,
- o Assess the significance of those impacts.

The environmental assessment of detailed alternatives may address impacts on hydrology, geology, air quality, flora and fauna, socioeconomics, land use, and cultural resources.

The environmental assessment should be performed by persons having expertise in the environmental sciences and should utilize the best available data and evaluation techniques appropriate for the particular site and alternatives being considered.

The environmental assessment's level of detail will be determined case by case but should be adequate to:

- Fully identify the adverse environmental impacts of the detailed alternatives and discuss measures for alleviating and mitigating those impacts;
- Identify the expected environmental benefits of the detailed alternatives;
- Summarize the expected adverse and beneficial impacts of <u>each</u> alternative in an attempt to identify the most environmentally beneficial and adverse remedial action alternatives; and,
- Determine whether an Environmental Impact Statement (EIS) should be prepared; when it is not necessary, the environmental assessment should serve to assure the Air Force and other interested parties that the effects associated with construction and operation of the selected alternative are understood and will not have a significant environmental impact.

If any of the detailed action alternatives are determined to have significant adverse impacts and such alternatives are otherwise likely to be selected for implementation, MAJCOMs should refer to AF Regulation 19-2 and contact AF/LEEV for guidance on the need for and requirements for preparation of an EIS. Otherwise, MAJCOM can anticipate the preparation of a CATEX or a brief Finding of No Significant Impact (FONSI).

TABLE 4. GENERIC NARRATIVE MATRIX - TECHNICAL EVALUATION OF ALTERNATIVES

Alternative	Cost ($1,000) Present Capital	Cost ($1,000) Worth	Engineering Feasibility	Environmental Impacts	Public Health Effects	Regulatory Compliance
1. No Action	15	15	---	Continued migration of contaminants to groundwater	Unacceptable exposure to benzene through continued release to groundwater and surface water. Potential for 10^{-2} to 10^{-5} cancer risk.	---
2. Groundwater Pumping/ Excavation and Removal	1,000	1,000	Proven Technology	Eliminates groundwater contamination	Assumes no direct contact and results in a 10^{-4} to 10^{-6} cancer risk	State has no RCRA-approved disposal facility
3. Groundwater Pumping, Treatment, Injection	700	1,260	Proven Technology	Reduces groundwater release and controls source of release	Assumes no direct contact and results in a 10^{-3} to 10^{-5} cancer risk	Regulatory agencies will require bench scale and pilot testing for an uncertain duration
4. Capping and grading/350° Slurry Wall/ Groundwater Pumping/ Temporary Alternate Water Supply	1,900	3,700	Proven Technology	Contains groundwater plume and groundwater release to surface water	Assumes no direct contact or ingestion--no risk	Complies

Public Health Analysis

In addition to being technologically feasible and effective, remedial actions must provide adequate public health protection. Therefore, the following should be reviewed:

- The degree of short term and long term public health protection provided by each detailed alternative and
- The levels at which detailed alternatives will reduce adverse long term effects of residual contamination.

Health standards and criteria may not exist for some toxic wastes. In such cases, consideration may be given to remedial alternatives that are the most effective in reducing the levels of these wastes. Judgement should be used in determining what levels are acceptable. Input should be sought from the Medical Service and regulatory agencies for appropriate levels, or ranges of levels, that the remedial actions should achieve.

Worker health and safety for each alternative will also be reviewed to determine which remedial alternatives pose the least threat to workers during construction, operation, and monitoring.

Regulatory Compliance

The ability of each detailed alternative to meet design regulations and contaminant discharge requirements of Federal, State and local agencies will be addressed. A synopsis of regulations and discharge requirements applicable to any of the detailed alternatives should be presented. Then any variances would be discussed that may be required should an alternative be selected.

The analysis of regulatory requirements should also include discussion of any potential difficulties in achieving compliance such as implementation delays, excessive documentation, or data collection requirements.

Compliance with regulations is a goal of the IRP. However, other factors are also considered in selection of the best overall remedial action. Alternatives that have problems regarding regulatory compliance, but offer significant benefits by other objective evaluation criteria, should be carried forward to the final step of selecting a preferred alternative.

Evaluation Summary

The evaluation process is essential for developing applicable information on which selection of a preferred alternative can be based. The amount and variety of information that must be considered may complicate the selection process. Therefore, all applicable information should be organized and presented in a concise fashion that highlights the compromises among all the evaluation criteria. To accomplish this, a narrative matrix should be used to summarize relevant information for each alternative. Table 4 is an example of a narrative matrix. This presentation will be included in the RAP.

4. Select Preferred Alternative

In preparing the Peer Review Draft RAP, the RAP contractor will identify the detailed alternative that, in his judgement, best achieves Air Force objectives. The preferred alternative should provide the optimum:

- Prevention against current and future migration of contaminants;
- Balance of engineering feasibility, environmental protection, public health protection, and regulatory compliance with cost; and,
- Compliance with contaminant standards.

Decisionmakers in MAJCOMs must have the environmental assessment of detailed alternatives on hand and must consider environmental impacts when selecting the preferred alternatives. All rationales used for selecting the preferred alternatives will be documented in the RAP.

Selection of the preferred alternative may occur at one of several points during Phase IV-A. If MAJCOM can reach a decision without outside assistance, the preferred alternative may be described in the Peer Review Draft RAP. MAJCOM may need to review comments made during the peer review before making a decision. In this case, the description of the preferred alternative will be incorporated in the Preliminary Draft RAP. Until AFIRM has technically reviewed the preferred alternative, MAJCOM's decision may be subject to change. After technical review, the AFIRM support contractor will prepare a record of decision for sites listed in the NPL for inclusion in the Final RAP. For sites not listed in the NPL, a decision document may be prepared by AFIRM contractor upon MAJCOM request.

5. Describe Preferred Alternative

The preferred alternative will be described in detail. Although not intended for use as a design specification document, the description should be sufficiently comprehensive and detailed to serve as a baseline document for initiation of Phase IV-B. The description will include the following information:

- o Engineering Description
  - Conceptual design criteria and rationale
  - Operational description of process units or other facilities
  - Unique structural concepts for facilities
  - Types of equipment required, including approximate capacity, size, and materials of construction
  - List of additional engineering data required to proceed with design
  - Preliminary project schedule
  - Conceptual plan view drawing(s) of overall site, showing general locations for project actions and facilities
  - O&M requirements

- o Cost Analysis
  - Implementation cost estimates
  - O&M cost estimates and duration of operating expenses
- o Regulatory Compliance
  - Construction and environmental permit requirements
  - A description of technical requirements for environmental mitigation measures
  - Right-of-way requirements
- o Requirements for Development of a Site Health and Safety Plan

6. Prepare and Distribute Reports

As the proponent of the RAP, MAJCOM is responsible for the preparation and distribution of the various RAP reports in accordance with existing guidance and DOD/EPA Memorandum of Understanding. (See Appendix E for the DOD/EPA Memorandum.) A format for the RAP document is provided in Appendix F.

MAJCOM should develop distribution lists to include technical reviewers and mandatory recipients. A list of discretionary recipients may also be developed in coordination with the installation Commander and public affairs officer.

The community relations plan, environmental documentation, three Draft RAPS, a Final RAP, and either a Record of Decison (for National Priority List sites) or a Decision Paper will be prepared and distributed as follows:

Community Relations Plan. Written community relations plans will be prepared for National Priority List sites. MAJCOM's may elect to have them prepared for other sites. See Chapter VII and Appendix C for guidance on preparation of community relations plans. Distribution of the plans will be determined by MAJCOM's on a site-by-site basis. Community relations plans may be prepared by contractors and should be delivered along with the Peer Review Draft or before.

Environmental Documentation. Based on the environmental analysis of the detailed alternatives and the requirements for following the Air Force's Environmental Impact Analysis Process (EIAP) per Air Force Regulation 19-2, MAJCOMs will decide whether a categorical exclusion (CATEX), an environmental assessment (EA), or an environmental impact statement will be prepared. See Appendix G for detailed guidance on complying with the EIAP in Phase IV of the IRP.

It is expected that most remedial actions will require EAs. Although EAs can extensively cross reference the RAP, especially environmental evaluations of the detailed alternatives, the EA document must stand alone. An EA may be prepared by a contractor at MAJCOM's discretion. It will be accompanied by Air Force Form 815, "Environmental Assessment Certificate," that will be prepared by the designated environmental planning function.

Environmental documents may be distributed to mandatory recipients (excepting the AFIRM Committee) of Preliminary and Final Draft RAPs and to MAJCOM's technical reviewers of the Peer Review Draft. Environmental documents should be made available to regulatory agencies and the public along with the Final Draft RAP and may be made available along with the Preliminary Draft RAP at MAJCOM's discretion.

Peer Review Draft RAP. A Peer Review Draft will be prepared for review and comments by all parties who participated in preparation of the SOW for the RAP and by any other technical reviewers selected by MAJCOM. It is advisable that cognizant regulatory agencies be invited to participate in the review process. The MAJCOM may request a technical review from the AFIRM committee. This draft will designate a preferred alternative.

Preliminary Draft RAP. A Preliminary Draft will be prepared to incorporate recommendations and revisions made during the peer review. The Preliminary Draft will be reviewed by the AFIRM Committee. Copies of the Preliminary Draft will be distributed to the following mandatory recipients: AFESC/DEVP/RDV/PA, USAF/LEEVP/SGPA, USAF OEHL/TS, AFRCE/ROV, installation

Medical Service, installation Engineering and Services, PA, JA, and base Commander. Additional copies should be distributed at MAJCOM's discretion and may be made available to regulatory agencies and the public.

Final Draft RAP. A Final Draft will be prepared to incorporate any changes made during the review of the Preliminary Draft and will include a description of the preferred alternative. Copies of the Final Draft will be distributed to MAJCOM's mandatory and discretionary recipients and will be made available to regulatory agencies and the public. Formal public comment periods required for National Priorty List sites will normally be scheduled to occur after distribution of the Final Draft RAP.

Final RAP. The Final RAP may or may not repeat information in the Final Draft. The minimum information to be incorporated into the Final RAP will be documentation of any modifications of the Final Draft, new technical considerations, MAJCOM's responses to agency and public comments; and either a Record of Decison (for National Priority List sites) or a Decision Document (see below).

All final RAP reports will be controlled by the MAJCOM, and distribution will be made by MAJCOM only after SAF/LLP (Legislative Liaison) has received copies and has had three days to retransmit to congressional recipients. The MAJCOM will then establish an official release date for distribution of final reports to other recipients. The reports will be provided, as a minimum, to the mandatory recipients listed for Preliminary Drafts, plus SAF/LLP, SAF/MIQ, and the Defense Technical Information Center, Cameron Station, Alexandria, Virginia 22314.

As required by the Air Force, MAJCOM will prepare DD Form 1473 for inclusion in the Preliminary Draft, Final Draft, and Final RAP reports. A completed example of Form 1473 is provided in Appendix H. MAJCOM will also prepare the required DTIC Form 50 to accompany Final Draft RAP and Final RAP reports that are transmitted to the Defense Technical Information Center. A copy of DTIC Form 50 is also provided in Appendix H.

Decision Documents. The basis for selection of each remedial action will be documented in a decision document.

For Air Force sites on the National Priority List, the decision document will be a Record of Decision (ROD). Requirements for the content and format of ROD's are presented in Appendix I. Draft ROD's will be prepared by the AFIRM Committee's support contractor based on review of the Preliminary Draft RAP. MAJCOM's will modify the ROD to incorporate a responsiveness summary and to reflect changes in the RAP since publication of the Preliminary Draft RAP. The Final ROD will be signed by the appropriate MAJCOM official (normally MAJCOM/DE).

For Air Force sites not on the National Priority List, the decision document will be a Decision Paper (DP). The format for Decision Papers is presented in Appendix J. Draft Decision Papers will be prepared by the AFIRM Committee's support contractor based on review of the Preliminary Draft RAP. MAJCOM's may modify the Decision Paper as appropriate. After funding authority is received, the Final Decision Paper will be signed by appropriate MAJCOM and base level officials.

CHAPTER VI. IMPLEMENTATION OF PHASE IV-B

Phase IV-B for remedial actions will normally be initiated after completion of the Final RAP and signing of the appropriate decision paper. However, Phase IV-B design work may be initiated while a RAP is being completed if uncertainties over design requirements have been resolved and the decision paper has been prepared and signed. In the case of simple removals (see Section IV.A.), any necessary design work may be initiated as soon as a decision paper has been prepared and signed. Design of emergency responses may be initiated when the determination has been made that a site poses an immediate and substantial threat to public welfare.

A. Design

The design documents will include complete technical specifications and drawings plus a final estimate of costs. This design effort is the responsibility of each MAJCOM or installation involved. Design may be performed internally, by A&E contract action (AFM 88-31), by the Corps of Engineers, or through arrangements with the AFRCEs. AFESC contractors will also provide design capabilities to MAJCOMs and installations. Existing contracting procedures will be employed for selection of A&E contractors at base level. Technical review of designs for remedial action should be performed by the installation and MAJCOM. MAJCOM may request technical review of designs from AFESC/DEVP, from the appropriate AFRCE or from relevant public agencies. Final design approval is a MAJCOM responsibility.

In addition to technical specifications, drawings, and final cost estimates for structures and equipment, final design documents shall also include:

- Requirements for a site health and safety plan to be prepared specifically for each site and for the remedial actions to be implemented (see Appendix K for a generic site health and safety plan);

- Requirements for environmental monitoring and quality assurance/quality control during construction including air, groundwater, surface waters, soil, sediments and biota as appropriate to protect against damage to worker health, public health and environmental resources during construction;

- Requirements for construction of post-closure monitoring facilities;

- Requirements for maintaining site security during construction; and,

- Requirements for construction contractor documentation of work performed, equipment installed, compliance with the site health and safety plan, compliance with environmental monitoring QA/QC protocols, and site worker and visitor logs.

Depending on site conditions and specific control measures incorporated in the RAP, design documents may also include:

- Requirements for mitigating measures for adverse environmental impacts such as dust control, erosion control, vegetation protection or an environmental protection training program for site workers;

- Requirements for a contractor's Plan of Operation for completion of complex construction activities;

- Requirements for contractor delivery of "as-built" drawings; or

- Requirements for an Operation and Maintenance Manual to be amended as necessary by the construction contractor.

B. Construction

Construction includes all remedial actions and will be performed either internally or by a contractor. Construction contractor selection should be based upon the technical requirements to perform the remedial action tasks. Construction contracts may be administered by the installation, MAJCOM, AFRCE or the Corps of Engineers.

Prior to starting construction activities, contractors will demonstrate to the contracting officer that they have implemented requirements for worker

health and safety, environmental monitoring and QA/QC, site security, documentation, and other procedural requirements specified in the bid documents and in their contract.

Construction management may be contracted to the design engineer or to other A/E firms, or it may be provided by Air Force and Army Corps of Engineer personnel. However, in the event that the design engineer may be selected to provide construction management services, then descriptions of services to be provided, qualification requirements for key personnel, and authorities of construction managers will be developed by the contracting officer. If the Corps of Engineers is utilized, their services may be obtained through the appropriate AFRCES.

During the construction phase HQ USAF will be kept appraised of progress through the 1383 report or other appropriate construction management programs.

C. Implement Site Management Methods

Site management methods incorporated in the Remedial Action Plan may be implementable while design and construction activities are in progress.

For instance, assignment of responsibilities and programming the appropriate resources for in-house operation and maintenance activities may be accomplished while facilities are being constructed. Personnel who will be performing operation and maintenance activities may then be trained on-site by the construction contractor or construction manager.

Land use restrictions may be implemented at any time after the Remedial Action Plan is completed. Specifically, the installation comprehensive plan would be amended in accordance with AFR 86-4 to reflect the required changes in land use.

Other site management methods may be implemented during or after Phase IV-B depending on their purpose and nature.

D. Review for Compliance

As part of the ongoing technical review process, Medical Services will review the remedial actions for their compliance with contaminant standards. To assure compliance with the IRP program objectives, the extent of monitoring requirements will be determined during the final review.

MAJCOM may implement a postclosure monitoring program and request analytical support from USAF OEHL or request that USAF OEHL develop a site monitoring plan (SMP) for execution by contract if a complex monitoring program is needed. If the SMP is to exceed more than one year, the sampling program will undergo a transition from the contractor to the installation.

The SMP will include:

- Expanded details (standing operating procedures) of the sampling methodology;
- Quality assurance requirements;
- Analytical and data reporting requirements;
- Resource requirements (labor, equipment, materials);
- Conditions that could trigger a reevaluation of the long term monitoring decision; and,
- Community relations planning.

MAJCOM may also be required to develop monitoring wells for long term use, provide initial instruction on sampling techniques, and assure that installed sampling pumps are in proper working order. Once installed, all wells, associated pumps, and other equipment will be turned over to the base civil engineer for accountability and maintenance.

The scope of postclosure monitoring is subject to revision if subsequent rounds of sampling and data analyses show significant changes in site status.

CHAPTER VII. PUBLIC AFFAIRS

A. General

The IRP public affairs guidance at Appendix C was prepared in coordination with the Air Staff and Secretariat, the Air Force Engineering and Services Center, and the U.S. Environmental Protection Agency. It supersedes interim guidance provided by message in October 1984 and January 1985. PAOs must become familiar with the IRP because the emotional and physical aspects of hazardous waste and its cleanup will probably impact the media and community relations programs of almost every major command.

The purpose of the community relations program is to provide the community with accurate, understandable and timely information about the site and IRP actions AND present actual or potential citizen concerns to Air Force decision makers. The program is intended to provide the citizens of the community with an opportunity to voice their concerns and to comment on the proposed response actions. Base environmental engineers and health officials must receive and address citizen concerns or jeopardize Air Force credibility as an environmentally responsive organization.

B. Public Affairs Guidance Main Points

1. The base PAO must work closely with the local technical experts to completely understand how IRP affects the base and its community. This means the PAO must stay current about the program and participate fully in IRP planning and execution.

2. The purpose of the guidance is to inform the public on all aspects of the IRP as quickly and fully as possible, gather feedback on public opinion and concerns, and pass this information on to IRP decision makers. It is NOT to "sell" or justify a particular course of action.

3. National Priorities List (NPL) sites must, within a reasonable amount of time, have a fully coordinated, MAJCOM/PA-approved, written community relations plan based on discussions with concerned citizens in the community and local environmental agencies.

C. Comments

If they haven't already done so, MAJCOM/PAs should appoint an IRP point of contact and issue specific directives based upon the guidance in this booklet and the individual MAJCOM's involvement in IRP.

This does not mean each MAJCOM/PA must reinvent the wheel. They should talk with counterparts at other commands (especially those commands experienced in IRP matters) or call SAF/PACC, AV 227-1128, or SAF/PAMS, AV 225-5766.

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ACRONYMS

AF	Air Force
AFESC	Air Force Engineering and Services Center
AFESC/DEVP	Air Force Engineering and Services Center, Assessments and Protection Division of the Environmental Planning Directorate
AFESC/RDV	Air Force Engineering and Services Center, Environics Division of the Engineering and Services Laboratory
AFIRM	Air Force Installation Restoration Management Committee
AFRCE	Air Force Regional Civil Engineer
AFRCE/ROV	Air Force Regional Civil Engineer, Environmental Division
CATEX	Categorical Exclusion
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980 as amended (Also Known as "Superfund" Legislation)
CRP	Community Relations Plan
DEQPPM	Defense Environmental Quality Program Policy Memorandum
DERA	Defense Environmental Restoration Account
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
DTIC	Defense Technical Information Center
EA	Environmental Assessment
EIAP	Environmental Impact Analysis Process
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency

ACRONYMS (CONTINUED)

EPF	Environmental Planning Function
FONSI	Finding of No Significant Impact
HARM	Hazard Assessment Rating Methodology
IRP	Installation Restoration Program
JA	Staff Judge Advocate
MAJCOM	Major Command
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NTIS	National Technical Information Service
O&M	Operation and Maintenance
OMB	Office of Management and Budget
PA	Public Affairs
PAO	Public Affairs Officer
RAP	Remedial Action Plan
R&D	Research and Development
ROD	Record of Decision
SAF/LLP	Office of Secretary of the Air Force, Legislative Liaison
SAF/MIQ	Office of Assistant Secretary of the Air Force for Safety and Environment
SMP	Site Monitoring Plan
SOW	Statement of Work
USAF OEHL	United States Air Force, Occupational and Environmental Health Laboratory

GLOSSARY

Confirmation Study - A Phase II investigation which verifies the existence or absence of contamination of a hazardous waste site.

Contaminant Standards - Limits on concentrations of contaminants in water, soil, sediments, or air established by Federal, state or local law or regulation.

Control Measures - Management methods and technologies that are applied for control and cleanup of hazardous waste sites.

Decision Paper - An abbreviated form of decision document for an Air Force site not on the National Priority List.

Defense Environmental Restoration Program (DERP) - The Department of Defense funding program for the Installation Restoration Program.

Detailed Alternatives - Potential, comprehensive solutions to site problems, composed of one or more control measures, which are developed and evaluated in detail in a Remedial Action Plan.

Emergency Response - A control measure or combination of control measures implemented to prevent or mitigate an immediate and substantial threat to public welfare posed by a hazardous waste site.

Environmental Assessment (EA) - A concise public document for which a Federal agency is responsible that serves to:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.
- Aid an agency's compliance with the Act when no environmental impact statement is necessary.
- Facilitate preparation of a statement when one is necessary.

An environmental assessment shall include brief discussions of the need for the proposal, of alternatives, and of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted.

Environmental Impact Analysis Process (EIAP) - Analysis by the Air Force of the potential environmental impacts of proposed actions and alternatives and use of those analyses in making decisions or recommendations on whether and how to proceed with those actions. The EIAP is conducted in accordance with AF Regulation 19-2, the National Environmental Policy Act of 1969 (NEPA) and the President's Council on Environmental Quality (CEQ) regulations.

Environmental Impact Statement (EIS) - A detailed statement, prepared by the responsible Federal official in accordance with the National Environmental Policy Act of 1969 and Council on Environmental Quality regulations (40 CFR 1500-1508), on

- o The environmental impact of the proposed action,
- o Any adverse environmental effects which cannot be avoided should the proposal be implemented,
- o Alternatives to the proposed action,
- o The relationship between local short term uses of man's environment and the maintenance and enhancement of long-term productivity, and
- o Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

Exposure Assessment - A determination of human exposure to and the resulting effects of contaminants on public health and welfare.

Feasibility Study - An EPA term for the development, evaluation, selection, and description of remedial action alternatives. Similar to the Air Force Remedial Action Plan.

Finding of No Significant Impact (FONSI) - A document prepared by a Federal agency briefly presenting the reasons why an action, not otherwise excluded, will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared. It shall include the environmental assessment or a summary of it and shall note any other environmental documents related to it. If the assessment is included, the finding need not repeat any of the discussion in the assessment buy may incorporate it by reference.

Installation Restoration Program (IRP) - The DOD program for identifying the loca- tions of and releases from past disposal sites and minimizing their associated hazards to public health.

Long Term Monitoring - A program of water, soil, or sediment analysis intended to track the occurrence of possible future migration of contaminants and implemented without concurrent implementation of a remedial action.

Management Methods - Administrative, legal, and other non-structural control measures implemented independently or in support of remedial technologies for control and cleanup of hazardous waste sites.

Narrative Matrix - A concise tabular presentation of conclusions from the evaluation of detailed alternatives which highlights the compromises among the evaluation criteria for each detailed alternative. This presentation is used by decisionmakers in selecting a preferred alternative.

National Priority List (NPL) - A list of hazardous waste sites that pose significant threats to public health and welfare. This list is prepared by EPA in accordance with the National Oil and Hazardous Substance Contingency Plan (NCP).

Phase IV-A - Preparation of the statement of work and the Remedial Action Plan.

Phase IV-B - Implementation of the Remedial Action Plan including facilities design, facilities construction, management methods implementation, and compliance review.

Preferred Alternative - The detailed alternative that is selected by MAJCOM for review and concurrence by the AFIRM committee. After review by AFIRM, regulatory agencies and the public, the preferred alternative becomes the Remedial Action in the Final RAP.

Public Affairs Officer (PAO) - Installation personnel who are responsible for maintaining proper communication channels with the public regarding installation activities of public concern.

Record of Decision - The documentation of a decision selecting the preferred alternative for sites listed on the National Priority List.

Remedial Action - The control measure or combination of control measures that is implemented as a permanent remedy to prevent or mitigate chronic site contamination problems.

Remedial Action Plan (RAP) - The process of selecting and describing remedial actions; also the report documenting that process.

Remedial Investigation (RI) - An EPA term for a study involving data collection and site characterization of hazardous waste sites similar to the Air Force Phase II operations.

Remedial Technologies - Structural control measures that are constructed for control and cleanup of hazardous waste sites.

Removal - The cleanup or removal of released hazardous substances from the environment; the disposal of removed material; actions taken in response to the threat of a release; and actions taken to monitor, assess and evaluate a release or threat of a release.

Responsiveness Summary - A written summary of responses to public inquiries and comments regarding installation activities. Required as part of the Community Relations Plan for sites listed on the National Priority List.

Sensitivity Analysis - Evaluation of the effects on overall project costs from variations in parameters associated with design, implementation, operation and effective life.

Site Monitoring Plan (SMP) - The procedures and requirements by which a long term or postclosure monitoring program is implemented.

Statement of Work (SOW) - Specifies the contractor efforts needed tc conduct and document the RAP and to describe the selected site control measures.

Waste Characterization - The identification and quantification of the contents and dimensions of a contamination source.

LIST OF ADDRESSES

HQ AFESC/DEV
Tyndall AFB FL 32403

HQ AFESC/RDV
Tyndall AFB FL 32403

HQ AFESC/PA
Tyndall AFB FL 32403

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HQ USAF/SGPA
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Dallas TX 75202

AFRCE-WR/ROV
630 Sansome Street, Room 1316
San Francisco CA 94111

Defense Technical Information Center
Cameron Station
Alexandria VA 22304-6145

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APPENDIX A

EXECUTIVE ORDER 12316

Presidential Documents

Executive Order 12316 of August 14, 1981

Responses to Environmental Damage

By the authority vested in me as President of the United States of America by Section 115 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (94 Stat. 2796; 42 U.S.C. 9615), it is hereby ordered as follows:

Section 1. *National Contingency Plan.* (a) The National Contingency Plan, hereinafter referred to as the NCP and which was originally published pursuant to Section 311 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1321), shall be amended to contain the implementing procedures for the coordination of response actions to releases of hazardous substances into the environment.

(b) The NCP shall contain a concept of a national response team composed of representatives of appropriate Executive agencies for the coordination of response actions. The national response team shall, in addition to representatives of other appropriate agencies, include representatives of the following: Department of State, Department of Defense, Department of Justice, Department of the Interior, Department of Agriculture, Department of Commerce, Department of Labor, Department of Health and Human Services, Department of Transportation, Department of Energy, Environmental Protection Agency, Federal Emergency Management Agency, and United States Coast Guard.

(c) The responsibility for the amendment of the NCP and all of the other functions vested in the President by Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, hereinafter referred to as the Act (42 U.S.C. 9605), is delegated to the Administrator of the Environmental Protection Agency.

(d) In accord with Section 111(h)(1) of the Act and Section 311(f)(5) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1321(f)(5)), the following shall be among those designated in the NCP as Federal trustees for natural resources:

(1) Secretary of Defense.

(2) Secretary of the Interior.

(3) Secretary of Agriculture.

(4) Secretary of Commerce.

(e) Amendments to the NCP shall be coordinated with members of the national response team prior to publication for notice and comment. Amendments shall also be coordinated with the Federal Emergency Management Agency and the Nuclear Regulatory Commission in order to avoid inconsistent or duplicative requirements in the emergency planning responsibilities of those agencies.

(f) All amendments to the NCP, whether in proposed or final form, shall be subject to review and approval by the Director of the Office of Management and Budget.

Sec. 2. *Response Authorities.* (a) The functions vested in the President by the first sentence of Section 104(b) of the Act relating to "illness, disease, or

complaints thereof" are delegated to the Secretary of Health and Human Services who shall, in accord with Section 104(i) of the Act, perform those functions through the Public Health Service.

(b)(1) The functions vested in the President by Section 101(24) of the Act, to the extent they require a determination by the President that "permanent relocation of residents and businesses and community facilities" is included within the terms "remedy" or "remedial action" as defined in Section 101(24) of the Act, are delegated to the Director of the Federal Emergency Management Agency.

(2) The functions vested in the President by Section 104(a) of the Act, to the extent they require permanent relocation of residents, businesses, and community facilities or temporary evacuation and housing of threatened individuals not otherwise provided for, are delegated to the Director of the Federal Emergency Management Agency.

(c) The functions vested in the President by Section 104 (a) and (b) of the Act are delegated to the Secretary of Defense with respect to releases from Department of Defense facilities or vessels, including vessels owned or bare boat chartered and operated.

(d) Subject to subsections (a), (b), and (c) of this Section, the functions vested in the President by Sections 101(24) and 104 (a) and (b) of the Act are delegated to the Secretary of the Department in which the Coast Guard is operating, hereinafter referred to as the Coast Guard, with respect to any release or threatened release involving the coastal zone, Great Lakes waters, ports, and harbors.

(e) Subject to subsections (a), (b), (c), and (d) of this Section, the functions vested in the President by Sections 101(24) and 104 (a) and (b) of the Act are delegated to the Administrator of the Environmental Protection Agency, hereinafter referred to as the Administrator.

(f) The functions vested in the President by Section 104 (c), (d), (f), (g), and (h) of the Act are delegated to the Coast Guard, the Secretary of Health and Human Services, the Director of the Federal Emergency Management Agency and the Administrator in order to carry out the functions delegated to them by subsections (a), (b), (d), and (e) of this Section. The exercise of authority under Section 104(h) of the Act shall be subject to the approval of the Administrator of the Office of Federal Procurement Policy.

(g) The functions vested in the President by Section 104(e)(2)(C) of the Act are delegated to the Administrator; all other functions vested in the President by Section 104(e) of the Act are delegated to the Secretary of Defense, the Secretary of Health and Human Services, the Coast Guard, the Director of the Federal Emergency Management Agency, and the Administrator of the Environmental Protection Agency, in order to carry out the functions delegated to them by this Section.

Sec. 3. *Abatement Action.* (a) The functions vested in the President by Section 106(a) of the Act are delegated to the Coast Guard with respect to any release or threatened release involving the coastal zone, Great Lakes waters, ports, and harbors.

(b) Subject to subsection (a) of this Section, the functions vested in the President by Section 106(a) of the Act are delegated to the Administrator.

Sec. 4. *Liability.* (a) The function vested in the President by Section 107(c)(1)(C) of the Act is delegated to the Secretary of Transportation.

(b) The functions vested in the President by Section 107(c)(3) of the Act are delegated to the Coast Guard with respect to any release or threatened release involving the coastal zone, Great Lakes waters, ports, and harbors.

(c) Subject to subsection (b) of this Section, the functions vested in the President by Section 107(c)(3) of the Act are delegated to the Administrator.

(d) The functions vested in the President by Section 107(f) of the Act are delegated to each of the Federal trustees for natural resources set forth in Section 1(d) of this Order for resources under their trusteeship.

Sec. 5. *Financial Responsibility.* (a) The functions vested in the President by Section 107(k)(4)(B) of the Act are delegated to the Secretary of the Treasury. The Administrator will provide the Secretary with such technical information and assistance as the Administrator may have available.

(b) The functions vested in the President by Section 108(a) of the Act are delegated to the Federal Maritime Commission. Notwithstanding Section 1(d) of Executive Order No. 12291, the regulations issued pursuant to this authority shall be issued in accordance with that Order. The Commission shall be responsible, in accord with Section 109 of the Act, for the enforcement of civil penalties for violations of the regulations issued under Section 108(a) of the Act.

(c) The functions vested in the President by Section 108(b) of the Act are delegated to the Secretary of Transportation with respect to all transportation related facilities, including any pipeline, motor vehicle, rolling stock, or aircraft.

(d) Subject to subsection (c) of this Section, the functions vested in the President by Section 108(b) of the Act are delegated to the Administrator.

Sec. 6. *Employee Protection and Notice to Injured.* (a) The functions vested in the President by Section 110(e) of the Act are delegated to the Secretary of Labor.

(b) The functions vested in the President by Section 111(g) of the Act are delegated to the Secretary of Defense with respect to releases from Department of Defense facilities or vessels, including vessels owned or bare-boat chartered and operated.

(c) Subject to subsection (b) of this Section, the functions vested in the President by Section 111(g) of the Act are delegated to the Administrator.

Sec. 7. *Management of the Hazardous Substance Response Trust Fund and Claims.* (a) The functions vested in the President by Section 111(a) of the Act are delegated to the Administrator, subject to the provisions of this Section and applicable provisions of this Order.

(b) The Administrator shall transfer, to transfer appropriation accounts for other agencies, from the Hazardous Substance Response Trust Fund, out of sums appropriated, such amounts as the Administrator may determine necessary to carry out the purposes of the Act. These allocations shall be consistent with the President's Budget, within the amounts approved by the Congress, unless a revised allocation is approved by the Director of the Office of Management and Budget.

(c) The Administrator shall chair a budget task force composed of representatives of agencies having responsibilities under this Order or the Act. The Administrator shall also, as part of the budget request for the Environmental Protection Agency, submit a budget for the Hazardous Substance Response Trust Fund which is based on recommended allocations developed by the budget task force. The Administrator may prescribe reporting and other forms, procedures, and guidelines to be used by the agencies of the Task Force in preparing the budget request.

(d) The Administrator and each agency head to whom funds are allocated pursuant to this Section, with respect to funds allocated to them, are authorized in accordance with Section 111(f) of the Act to designate Federal officials who may obligate such funds.

(e) The functions vested in the President by Section 112 of the Act are delegated to the Administrator for all claims presented pursuant to Section 111.

Sec. 8. *General Provisions.* (a) Notwithstanding any other provision of this Order, any representation pursuant to or under this Order in any judicial or quasi-judicial proceedings shall be by or through the Attorney General. The conduct and control of all litigation arising under the Act shall be the responsibility of the Attorney General.

(b) Notwithstanding any other provision of this Order, the President's authority under the Act to require the Attorney General to commence litigation is retained by the President.

(c) The functions vested in the President by Section 301 of the Act are delegated as follows:

(1) With respect to subsection (a), to the Administrator in consultation with the Secretary of the Treasury.

(2) With respect to subsection (b), to the Secretary of the Treasury.

(3) With respect to subsection (c), to the Secretary of the Interior.

(4) With respect to subsection (f), to the Administrator.

(d) The Attorney General shall manage and coordinate the study provided for in Section 301(e) of the Act.

(e) The performance of any function under this Order shall be done in consultation with interested agencies represented on the national response team, as well as with any other interested agency.

(f) Certain functions vested in the President by the Act which have been delegated or assigned by this Order may be redelegated to the head of any agency with his consent; those functions which may be redelegated are those set forth in Sections 2, 3, 4(b), 4(c), and 6(c) of this Order.

(g) Executive Order No. 12286 of January 19, 1981, is revoked.

Ronald Reagan

THE WHITE HOUSE,
August 14, 1981.

[FR Doc. 81-24411
Filed 8-18-81, 1:23 pm]
Billing code 3195-01-M

APPENDIX B

AIR FORCE INSTALLATION RESTORATION MANAGEMENT (AFIRM) COMMITTEE CHARTER

Air Force Installation Restoration Management (AFIRM) Committee

I. GENERAL. The Air Force has had an active Installation Restoration Program (IRP) since 1980. Initial efforts primarily addressed the locations and contents of problem sites. As these locations become identified, the Air Force now faces the elimination of hazards in an environmentally responsible manner. The selection of appropriate remedial actions at past hazardous materials disposal sites is a complicated procedure requiring a variety of technical expertise. The collection and evaluation of data and the selection of remedial alternatives must follow an orderly process to assure that decisions affecting public health or the environment are made deliberately and consistently for facilities throughout the Air Force. To implement standard quality assurance procedures, HQ USAF/LEE has established the AF Installation Restoration Management (AFIRM) committee.

II. PURPOSE. This charter establishes the functions, organization membership, and procedures of the AFIRM. Its purpose is to assure that technology/management techniques used by Air Force organizations conducting Defense Environmental Restoration Account (DERA) funded remedial measures and/or procedures to correct or mitigate identified deficiencies at past disposal sites are implemented consistently and in a cost-effective manner for active, Reserve, Guard, and closed AF installations or sites. AFIRM will not address government-owned, contractor-operated (GOCO) facilities for which HQ USAF/RDC is OPR.

III. AUTHORITY. The authority for establishment of this committee is contained in Defense Environmental Quality Program Policy Memorandum (DEQPPM) 81-5, dated 11 December 1981, which directs the AF to develop and maintain a priority listing of contaminated installations and sites for remedial action in compliance with the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980; Executive Order 112316, dated August 1981; and implementing directives which require that the AF be responsible for response actions to control hazardous material releases on their installations.

IV. FUNCTIONS.

A. The Committee will:

1. Serve as focal point for transfer of remedial action technologies and management techniques among Air Force organizations.

2. Review Remedial Action Plans submitted by the MAJCOMs to assure a consistent and cost-effective approach to waste site cleanup.

Rev 1, 4/9/85

3. Review and propose program management guidance.

4. Establish AF priority for Phase IV actions.

5. Assign priority for funding under the Defense Environmental Restoration Program and/or recommend priorities for other funding programs.

6. Identify R&D requirements for advanced remedial technologies to support the IRP.

V. ORGANIZATION. The committee shall be comprised of representatives from HQ USAF/LEE, HQ ATC, HQ MAC, HQ SAC, HQ TAC, HQ AAC, HQ AFLC, HQ AFSC, HQ PACAF, HQ AFESC, NGB/DE, HQ AFRES, HQ USAF/JAC, and HQ USAF/SGES. AFRCEs will provide representatives who will act as technical consultants to the committee. A contractor, who is a nationally recognized authority in hazardous waste disposal site restoration, will act as technical and quality assurance advisor to AFIRM. The LEEV member shall be the chairman. The HQ USAF/LEEV IRP action officer shall serve as the committee's executive secretary. The executive secretary shall maintain minutes of committee meetings, perform administrative and record keeping functions as directed by LEEV, and furnish documentation for committee review to the members in advance of meeting dates. The chairman may establish subcommittees and/or working groups as required to expedite the business before the committee and/or resolve specific problems related to a specific state or region. All committee members shall be responsible environmental decision makers for their respective command or office.

VI. REVIEW PROCEDURES.

A. Each MAJCOM will annually submit its list of sites, which are anticipated to go into Phase IV IRP, to AFIRM by 1 January of the preceding FY. HQ AFESC/DEV will coordinate the integration of these sites with Phase II IRP completion and contractor initiation of Phase IV IRP activities. AFESC will work with major command civil engineering and bioenvironmental personnel during this transition phase. The list of IRP sites will serve as the primary source document for initial AFIRM planning of upcoming FY actions IAW paragraph IV above.

B. To minimize MAJCOM resource commitment, a review board approach will be used. The board will be comprised of the chairman, the representative of the affected MAJCOM, a minimum of two other MAJCOM representatives chosen randomly, and the SGES representative. AF/JAC will provide legal consultation to the board and an engineer from the concerned AFRCE will provide engineering and contractor management consultation as well as regulatory perspectives. Remedial Action Plans will be reviewed by the quality assurance contractor who was not a contractor associated with IRP execution on the affected installations. The quality assurance contractor will, in writing, concur in the recommended alternative and, if there is nonconcurrence, give detailed justification for disagreement. The documentation will be provided to the board on plain bond paper with no indication of contractor origination. HQ AFESC/DEV will administer the quality assurance contract, coordinate contractor activities, and provide documentation for review.

C. The above procedures refer to programmed remedial actions. Emergency removal actions will be addressed on an "as required" basis in a manner consistent with the magnitude of the problem.

VII. Proponent Of Actions. The affected MAJCOM shall be the proponent of the Remedial Action Plan presented to the AFIRM. The plan shall have received initial peer review by MAJCOM, installation, AFESC, AFRCE, USAF OEHL, and the RAP contractor. The contractor shall have provided the MAJCOM with a decision briefing to include the necessary vu-graphs and briefing narrative.

VIII. POLICY AND STATUS REVIEW PROCEDURES.

A. Meetings of the AFIRM will be convened as required at a location deemed appropriate by the chairman. It is anticipated that meetings will be conducted quarterly. All members, or their designated alternates, should attend meetings to ensure input for any policy or program decisions. Lack of attendance will acknowledge agreement with the AFIRM actions. Special meetings may be called at the option of the chairman by message with no less than 15 working days prior notification. Major commands will be notified of special meetings only when information relating to one of their installations will be discussed. A committee agenda will be published 10 working days prior to any meeting date.

B. AF/LEEV administrative costs of the AFIRM activities will be borne by AF/LEEV. Travel and per diem costs will be the responsibility of the members' activities. The quality assurance contract will be administered by HQ AFESC/DEV.

C. Minutes and complete records of all actions will be prepared for all AFIRM meetings. Copies will be distributed to all members and invited participants within 10 working days after the meeting.

D. The AFIRM committee will have a tenure of eighteen months. The need for the committee will be reassessed in September of 1986. The activities and actions of the AFIRM will be reviewed after the first year of operation, but not later than 31 January 1986, to assess the performance of Quality Assurance Contractor and to assure that policy changes are integrated into the program.

IX. AMENDMENTS: A request to amend this charter may be made at any time. After consideration by the committee, the requested changes will be submitted to the chairman who has the final approval authority for charter changes.

APPENDIX C

PUBLIC AFFAIRS GUIDANCE ON INSTALLATION RESTORATION PROGRAM AND ENVIRONMENTAL PROTECTION AGENCY'S NATIONAL PRIORITIES LIST, 5 APRIL 1985

PUBLIC AFFAIRS GUIDANCE

on

INSTALLATION RESTORATION PROGRAM

and

ENVIRONMENTAL PROTECTION AGENCY'S NATIONAL PRIORITIES LIST

1. The following public affairs guidance is provided for activities associated with the Air Force Installation Restoration Program (IRP) and in cases where Air Force installations are proposed for inclusion in the Environmental Protection Agency National Priorities List (NPL). The IRP guidance is presented separately from guidance concerning involvement of Air Force installations in the NPL. Public affairs activities throughout the IRP are important for several reasons. Through these activities, the Air Force provides citizens with needed information about the extent of contamination and the likely effects of clean-up actions. Citizens, in turn, provide the Air Force with additional information about contamination and alternative response actions. A close relationship between the Air Force and the community ensures public support for follow-on actions. IRP activities must be sensitive to the civilian and military communities which will be affected by the action; emphasis must be on two-way communication between the base and its community.

2. Installation Restoration Program

a. Background. The Air Force, due to the very nature of its primary mission, has long been engaged in a wide variety of operations dealing with toxic and hazardous materials. Improvements in technology and more complete understanding of long-term effects from hazardous materials show the adverse impact caused by some past disposal methods. In some cases, the movement or seepage (also called migration) of these materials into surrounding areas has damaged the environment, requiring action to identify and eliminate hazards. Federal law requires that government agencies and the private sector survey their operations to identify all past and present hazardous waste disposal sites. The collected information is provided to the appropriate regional offices of the Environmental Protection Agency (EPA) and state environmental and health agency offices for evaluation. The Air Force's Installation Restoration Program (IRP) is a comprehensive effort to identify and evaluate past hazardous disposal sites on Air Force installations and to control the migration of hazardous environmental contaminants. The IRP is being implemented in four phases with provisions for emergency removal actions if a danger to public health is identified. A removal action can take place in any phase; its purpose is to mitigate immediate hazards and allows for further remedial action if needed. At the conclusion of Phase I, and again after Phase II, a decision is made as to whether or not further action is needed.

(1) Phase I, Installation Assessment (Records Search). Phase I is the responsibility of USAF Engineering and Services. In this phase, installation files are examined, current and key former employees are interviewed, and the terrain and facilities are examined. Additionally, all available information is collected on past missions, current operations, waste generation, disposal, and hydrogeology of the area

from Air Force as well as public sources. This phase results in recommendations for further study and investigation if potential problems have been identified.

(2) Phase II, Confirmation and Quantification Phase. Phase II of the IRP is conducted by the USAF Medical Service. The extent of contamination at sites identified in Phase I is determined by analysis of air, water, sediment, and soil samples. This "confirmation" phase is prefaced by a preliminary survey to define a course of action and estimate costs for the sampling and analysis process. Phase II is often accomplished in stages. The first stage involves sampling and analysis to verify the presence of contaminants and, if possible, the extent of their movement. In the first stage, existing production wells are sampled and analyzed, but additional monitoring wells and other sampling methods may be required. It's important to understand that Phase II activities are difficult to pre-plan, and numerous efforts are often required to adequately confirm the presence and concentration of contaminants. Follow-on stages and subsequent reports may be required to adequately determine the directions and rates of contaminant migration. Multiple stages within Phase II assure the clean-up and containment recommendations made at the conclusion of these activities will resolve the hazards identified.

(3) Phase III, Technology Base Development. USAF Engineering and Services, through the Air Force Engineering and Services Laboratory, generally manages this phase. Control technology is developed to resolve specific problems only at sites where Phase II contractors cannot identify a remedial alternative to contain or alleviate the contamination. Containment or decontamination methods selected depend on a variety of factors, including the nature of contamination, the impact on the environment, the cost of alternative methods, and the proposed land use after containment or decontamination. A data base is developed by Air Force Medical Service, through the Air Force Aerospace Medical Research Laboratory, to identify health effects caused by exposure to contaminants identified in Phase II. The information is used to assure the corrective action selected will adequately protect the public health. If methods exist to assure hazardous contamination migration can be controlled or minimized, this phase is omitted.

(4) Phase IV, Remedial Actions. Phase IV is managed by USAF Engineering and Services. This phase covers remedial measures required to control identified hazardous conditions that may have an adverse impact on public health or the environment. This phase includes the development of a Remedial Action Plan (RAP), a decision document, and design, construction, and operation of pollution abatement facilities as well as contamination removal and disposal actions. It may also include construction of containment facilities or decontamination processes, and associated long-term monitoring systems. The decision document reflects the final approval of the selected clean-up/containment alternative. For National Priorities List sites, this document is called the Record of Decision (ROD), and must include a summary of community concerns.

b. General. Since Department of Defense policy is to keep the public fully informed of unclassified activities such as the IRP, base Public Affairs Officers (PAOs) must be fully aware of their bases' IRP activities. PAOs must work closely with commanders and concerned base agencies to define specific strategies for handling public and media interests. An organized approach to community relations at the local level is required to keep community leaders and affected citizens informed and allow them to provide feedback to base officials. Major Commands (MAJCOMs) will determine those bases which must have written, site-specific public affairs plans. MAJCOMs will designate a point of contact for IRP public affairs matters and issue specific guidance.

MAJCOMs will also supplement US Air Force internal information programs with information about the Installation Restoration Program. Media queries should be answered at base level and coordinated with local offices, e.g., civil engineers, judge advocate, and bioenvironmental engineers. Local commanders and technical experts should be prepared to deal directly with civic groups and the news media in explaining the IRP in plain language. Letters and/or briefings to key community leaders explaining Air Force actions should be prepared locally and precede news releases. Responses to questions about local environmental clean-up efforts should be answered forthrightly, explaining Air Force initiatives under IRP. PAOs must study preliminary and final draft reports to understand which contaminated sites present the most difficult problems from a public affairs/community relations view. Community leaders, affected citizens, and local media should be encouraged to visit installations, subject to national security, MAJCOM and local base considerations. However, the release of any Preliminary or Final Draft report is not normally appropriate. Such drafts are internal working documents and may contain grammatical and/or technical errors that, if released, could provide incorrect information and lead to erroneous conclusions. The PAO must work with concerned base offices to keep the public informed without releasing draft reports. In fact, efforts to prepare periodic fact sheets, briefings, etc., often serve the public interest better than the release of draft reports. In short, PAOs should work to release information that is both factual and easy to understand. Throughout the IRP process, timely information must be provided to the public and community concerns provided to IRP decision makers.

c. Phase I (Records Search) Guidance.

(1) Since the consultant team will be contacting federal, state, and local offices to help gather data, it is important that the general public be aware that the records search is a preliminary measure and not necessarily an indication that hazardous waste problems exist. Most Continental United States (CONUS) bases will receive a records search. These searches are usually done by civilian engineering firms under Air Force contracts.

(2) Prior to the record search team's arrival and on completion of the Phase I report, PAOs should inform key community leaders (by letter, phone, or briefing) and make releases to news media after coordination with concerned base offices and the appropriate MAJCOM. Sample releases are included (Attachments 1 and 2). All correspondence and news releases should be localized and tailored to reflect results of the records search. Advise the EPA regional office and other appropriate community agencies before sending out any news releases.

d. Phase II (Confirmation and Quantification) Guidance.

(1) The PAO will inform key local government and community leaders of impending actions prior to sending out news releases when Phase II studies begin. PAOs will then release a statement similar to the sample given in Attachment 3 after coordination with concerned base offices and respective MAJCOM/PAs. Some localization/modification will be required.

(2) Upon completion of a Phase II report, PAOs will inform key community leaders and release a statement similar to the sample given in Attachment 4 if the sampling and analysis work rules out the presence of hazardous waste problems. The release should be localized and coordinated with concerned base agencies and respective MAJCOM/PAs.

(3) In cases where Phase II studies indicate the presence (or migration) of contaminants that may require Phase III or Phase IV activity, information will be made available to the public. The timing and amount of detail provided depends on the local situation; a meeting between the base commander and community leaders may be valuable at this point. Include base experts and address community concerns completely. A sample Phase II news release is included (Attachment 5). Since there is often more than one Phase II stage report, the release of information must be coordinated between the PAO and concerned base offices. In cases where a high level of local interest exists, detailed contents of the Phase II Statement of Work (SOW) and frequent, even monthly, status reports of the contractor's field activities should be provided. PAOs should work with concerned base offices to develop a timetable for such reports to the community. These reports can be in the form of direct mail to residents, briefings, town meetings, news releases, telephone calls, etc., as appropriate. The PAO should attend meetings with community leaders, briefings, and town meetings. These forums provide the community a chance to voice concerns that must be addressed in IRP actions.

(4) Bases will send the executive summary section of each final report to community leaders and local government officials. The names of local libraries where copies will be available should also be included. Bases will support media requests for final reports and should provide free copies of the executive summary portion to the community when requested. Requests by the public and media for advance copies of final reports should be denied, but the requestors should also be informed of the approximate date and location for releasing the final report. The Public Affairs office should take the requestor's name and provide a copy of the executive summary when the final report is released. If more information is required, the address of the National Technical Information Service should be provided so requestors can purchase copies of the entire report (Attachment 4).

e. Phase III (Technology Development) and Phase IV (Remedial Actions) Guidance.

(1) Phases III and IV involve actions necessary to protect public health and the environment when presence and migration of contaminants has been discovered during Phase II sampling and analysis. While Air Force experience with installation restoration is showing the occurrence of Phase III activities to be minimal, the actual clean-up of sites in Phase IV requires public affairs involvement at all levels. The installation civil engineering and medical service functions will work with the MAJCOM to develop a Phase IV Remedial Action Plan (RAP) and a decision document. The RAP analyzes control options (may be called feasibility studies), offers an approach for controlling contamination, estimates funding requirements, and provides a time-phased schedule for resolving the identified hazard(s). MAJCOMs determine the appropriate level of community relations activities required for their projects and whether public meetings may be necessary. PAOs must be aware of the Phase IV activities and fully responsive to community concerns.

(a) The PAO must evaluate the impact of the proposed clean-up or containment action on the overall community using knowledge of community and base sensitivities, special interest groups, and key leaders. The intent of the public affairs program is to present full, factual, and timely information consistent with national security considerations, provide community feedback, dispel rumors, and promote understanding. It is NOT to generate a program to "sell" a particular action.

AD-A163 081 AIR FORCE INSTALLATION RESTORATION PROGRAM MANAGEMENT GUIDANCE(U) HAZARDOUS MATERIALS TECHNICAL CENTER ROCKVILLE MD B LINDENBERG ET AL JUL 85 2/3

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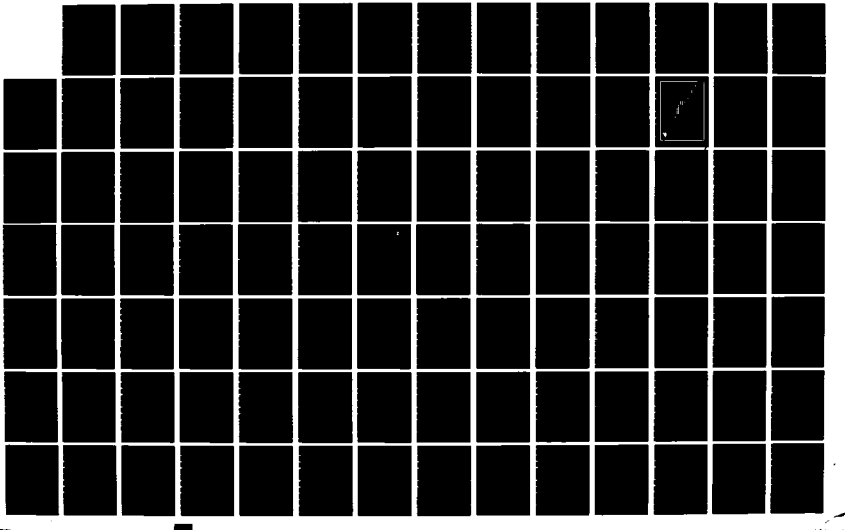
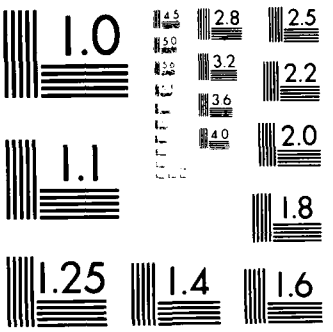




(b) The PAO must relate community concerns to appropriate Air Force IRP decision makers. Emphasis should be on two-way communication between the base and its community. Base-Community Councils and Civilian Advisory Boards are ideal communication channels for IRP. Local PAOs should inform these groups about IRP activities and update the information regularly. The Base-Community Councils and Civilian Advisory Boards should be used to gather feedback from community leaders about hazardous waste concerns in the community. Those concerns should be addressed in a prepared list of proposed questions and answers (Q&As) developed to respond to anticipated questions not answered in news releases. In addition, PAOs should consider inviting the local or regional regulatory agency representative to attend the Police, Health, and Safety Committee meetings of their Base-Community Council.

(2) As in Phases I and II, community leaders and local government officials must be kept informed through letters, briefings, telephone calls, etc., prior to sending out news releases. Sample news releases are not included in this guidance for Phases III and IV since details for specific sites may vary greatly and will require a coordinated effort by base PAOs and local experts.

f. Public Affairs Responsibilities.

(1) Each MAJCOM must establish a public affairs IRP directive listing PAO responsibilities. In cases where there is no PAO assigned to an installation, such as at Government-Owned Contractor Operated (GOCO) plants, the responsible command will ensure an on-site representative, well-versed in IRP community relations activities, carries out public affairs responsibilities. As a minimum, the MAJCOM directive will task the PAO with the following responsibilities:

(a) Be the focal point for public affairs aspects of proposed IRP actions.

(b) Provide guidance in public affairs support to the staff on all aspects of the proposed IRP actions.

(c) Establish and maintain liaison with higher headquarters public affairs offices and concerned base agencies on all IRP public affairs matters. Depending on the action itself or the stage of the IRP news releases, responses to media queries or briefings may require coordination with federal agencies, local governments, or special interest groups. Since local situations will vary widely, it is imperative that PAOs fully evaluate their local problems and ensure all concerned parties are in the communication channel. Interviews with community spokesmen can ensure a complete understanding of community concern.

(d) Ensure civic leaders and spokesmen for local interest groups are notified of the proposed program action, invited to appropriate meetings, encouraged to contribute ideas, and informed of decisions made. Such activities should continue until all IRP activities, including remedial actions, are complete.

(e) Prior to selection of a clean-up/containment action in Phase IV, prepare a community impact briefing for military and civilian audiences on the proposed action and how it will be conducted. Present this briefing to community leaders and concerned citizens and ensure feedback reaches IRP decision-makers. Include base experts and address community concerns.

(f) Provide security review for documents and briefings entering the public domain.

(g) Develop, coordinate, and distribute information on proposed action, including notification of community leaders and sending news releases. Coordination will normally be confined to other lateral agencies and higher headquarters counterparts. In addition, a comprehensive series of proposed questions and answers (Q&As) on the local situation must be developed to respond to anticipated questions. Announcements and Q&As should explain, in the simplest language possible, the nature of the proposed action.

(h) Develop, coordinate, clear, and release updates on the progress of the IRP, filing of draft and final reports, public meetings, and other decisions.

(i) Ensure all base personnel are fully informed of IRP progress through the base newspaper, commander's calls, staff meetings, etc.

(j) Maintain a complete record of all news releases made, briefings given, queries answered, coverage in print media, and summaries or transcripts of electronic media reports.

(k) If appropriate, prepare fact sheets on key aspects of the proposed action for distribution to media and other interested parties.

(l) Maintain a list of qualified speakers to address government, business, civic, and other groups and actively solicit audiences with local civic groups, PTAs, and other community organizations. It's important that PAOs receive feedback from audiences through speakers.

(2) Although a formal, written community relations plan is not a statutory requirement for IRP sites not included in the National Priorities List (NPL), commands may elect to require one at selected installations. Suggested minimum information is listed in paragraph 3c. Unless an installation has a site(s) on the NPL or has a MAJCOM-approved, written IRP community relations plan, requests from the Environmental Protection Agency for site-specific community relations plans should be referred to the MAJCOM.

(3) An EPA publication, Community Relations in Superfund: A Handbook, has been included at Attachment 7 to provide commands ideas of programs that have proven effective for the EPA at other clean-up sites. MAJCOMs should take advantage of this exchange of information and experience when providing guidance to PAOs.

3. Environmental Protection Agency's National Priorities List

a. Background. The National Priorities List (NPL) is a vehicle used by the Environmental Protection Agency to prioritize funding for sites under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), commonly known as "Superfund." It identifies targets for action and serves as an information and management tool, allowing the EPA to decide which sites warrant detailed investigation to determine what, if any, response is needed. In the past, federally-owned sites were not included on the list because, for all practical purposes, they were not eligible for "Superfund" money. However, the Department of Defense and the EPA developed a joint plan to have State and EPA teams rank DOD sites so they could be included in the NPL, once a revised National Contingency Plan is adopted. In addition, federal guidelines

mandate that NPL sites (including Air Force installations designated as such) follow a written community relations plan and provide a public comment period prior to approving a clean-up or containment action. This mandatory public comment period begins when the Remedial Action Plan (RAP) is released for public review. The purpose of the community relations program is to provide communities with accurate information about problems posed by releases of hazardous substances, and give local officials and citizens the opportunity to comment on the technical solutions to the site problems. The EPA has developed guidance specifically for community relations at hazardous waste sites (attachment 7) and included important "lessons learned" in Community Relations Activities at Department of Defense Sites (attachment 8). This EPA experience is worth serious consideration since it underscores the Air Force commitment to work with the states and the EPA to ensure community relations problems are promptly identified and resolved. The listing of Air Force sites will focus public attention on clean-up activities, even though federal sites are not eligible for "Superfund" financing. A fact sheet on the NPL is included (attachment 6).

b. Guidance. MAJCOMs will ensure that NPL sites on their installations have written, site-specific community relations plans. MAJCOMs will issue specific guidance after considering the EPA handbook at Attachment 7 and suggestions at Attachment 8. Since a mandatory 21-calendar day public comment period must precede final selection of a clean-up/containment alternative, close coordination with the Environmental Engineers at MAJCOM level is required. USAF Engineering and Services is developing procedures to ensure a section which summarizes the major issues raised by the public, and how they are addressed, is included in the Record of Decision (ROD) approving the clean-up/containment remedy. The section is called the Responsiveness Summary and will be formally prepared by the Phase IV contractor. However, the PAO must ensure the details describing community concern are provided to the appropriate MAJCOM Environmental Engineers so that the Responsiveness Summary can be written. Information to the community about the NPL and local environmental clean-up should be sent to community leaders, concerned citizens, and area media, explaining Air Force initiatives under the IRP. Information contained in the Assistant Secretary of Defense (Manpower, Installations, and Logistics) 1984 Annual Environmental Protection Summary (see attachment 9) should be used along with the NPL fact sheet. Though placement on the NPL may call attention to given sites, the Air Force IRP goes well beyond those that may appear; NPL sites are only a small portion of an ambitious restoration program at about 160 Air Force installations. Community and media requests to visit installations to discuss or photograph activities associated with the NPL should be supported, subject to national security, MAJCOM and local base considerations.

c. Community Relations Plan. The community relations plan for Air Force sites on the NPL will be based on discussions with citizens in the community (see attachment 8, "Suggested Site Activities" and/or attachment 7, Chapter 4 for useful methods). The plan will include:

(1) Background and history of community involvement at the site, including local activity and interest, key issues, and site history.

(2) Specific objectives of the IRP community relations program.

(3) Community relations activities to be used to meet specific objectives. (This section may also be called a Community Relations Work Plan, since it defines specific techniques such as use of mailing lists, information repositories, Air Force and local agency points of contact, public comment periods, fact sheets, technical reports, and news releases, etc.)

(4) Schedule for completion of the Plan.

(5) List of affected and interested groups and individuals, plus a listing of Air Force, EPA, and other agency officials responsible for community relations.

ATTACHMENT I

SAMPLE NEWS RELEASE

IRP PHASE I
(Announces Record Search)

_____ AFB officials announced today that (name of contractor, a private engineering firm under Air Force contract) **OR** (a special records search team from _____), will visit the base from _____ to _____ as part of an Air Force-wide program to identify the location and status of any inactive waste disposal sites.

Federal law and regulations require government agencies and the private sector to identify possible disposal sites and forward data to the appropriate regional Environmental Protection Agency and state environmental agency offices. Final reports will be available to the general public upon request.

The major thrust of the upcoming visit to _____ AFB will be an intensive records search to identify any former disposal sites on the installation that may contain hazardous materials. The search will be as intensive as historical records will permit, and will also include interviews with people who may know of past base operations. Citizens wishing to offer information should contact (name, phone number) . The team will also contact federal, state, and local offices to gather any pertinent data.

Should the team identify any disposal sites of potential environmental risk, base officials will request follow-on assistance to determine the exact nature and magnitude of any problem. Should a problem be identified, the Air Force will start actions to decontaminate, contain, or correct the problem.

ATTACHMENT 2

SAMPLE NEWS RELEASE

IRP PHASE I
(Record Search Complete)

_____ AFB officials announced today the completion of an intensive records search to determine if there are potential problems associated with former disposal activities on the installation. The study has concluded that (no potential problems exist at _____ AFB after a comprehensive records search at the base, various federal, state, and local offices, and after interviews with people knowledgeable about past base operations.) OR (additional actions, including environmental sampling and analysis, are required to determine the exact nature and magnitude of any problems caused by base operations. There are presently no immediate hazards to public health.)

The records search was part of an Air Force-wide program to identify the location and status of any former disposal sites. (Name of contractor, a private engineering firm under Air Force contract) OR (A special records search team from _____) conducted this effort.

Findings have been forwarded to federal and state environmental protection agencies to comply with laws requiring government agencies and the private sector to identify disposal sites of potential environmental risk. A copy of the complete report and executive summaries are available for public review at _____ Public Library.

ATTACHMENT 3

SAMPLE NEWS RELEASE

IRP PHASE II
(Announces Sampling and Analysis)

_____ AFB officials announced today the start of sampling and analysis work to evaluate potential problems associated with former disposal activities on the installation. The Air Force recently identified disposal sites during records searches and interviews with people knowledgeable about past base operations.

The analytical work at _____ AFB is part of an Air Force-wide program to identify location and status of former disposal sites. Air Force bases have been scheduled for this study as part of a comprehensive installation restoration program.

Air Force officials point out that all actions taken so far are part of a comprehensive program, and actual problems have not been identified. There is no immediate hazard to public health. Records search efforts were undertaken to identify potential problems and the analytical work now being performed will confirm or rule out the presence of environmental conditions requiring attention.

A report of the results of the sampling and analysis work will be forwarded to the Environmental Protection Agency to comply with federal laws requiring government agencies and the private sector to identify and evaluate disposal sites of potential environmental risk. Executive summaries of the final report will be available to the public upon request by writing to (base Public Affairs office).

ATTACHMENT 4

SAMPLE NEWS RELEASE

IRP PHASE II
(Sampling and Analysis Complete)
(No Contamination)

_____ AFB officials announced today the end of sampling and analysis work to assess potential risks associated with former disposal activities on the installation. As a result of the analysis, researchers have concluded that there is little probability of environmental contamination or hazards to public health relating to waste disposal activities here.

The research has been part of an Air Force-wide program to identify the location and status of former disposal sites. Air Force officials began their research work here in _____ with record searches and interviews with people knowledgeable about past base operations. The more recent confirmation studies began _____.

Findings of the confirmation studies will be forwarded to the Environmental Protection Agency to comply with federal laws requiring government agencies and the private sector to identify and correct potential environmental risks. Executive summaries and copies of the complete report are available at _____ Public Library. The final report may be purchased by the public from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22151.

ATTACHMENT 5

SAMPLE NEWS RELEASE

IRP PHASE II
(Sampling and Analysis Complete)
(Further Action Required)

_____ AFB officials announced today the completion of sampling and analysis work to assess potential risks associated with former disposal activities on the installation. As a result of the analysis, Air Force consultants have concluded that there is no immediate hazard to public health. However, (describe location(s)) require further action.

The study has been part of an Air Force-wide program to identify the location and status of former disposal sites. This comprehensive effort is called the Installation Restoration Program (IRP). The sampling and analysis just completed is Phase II of the four-phase program. Phase I for this installation, completed in month/year and released in month/year, consisted of a records search to identify sites with potential problems.

Number of the sites identified in the Phase I records search did not require further monitoring due to little or no potential for contaminant presence or migration.

Phase II consisted of a preliminary survey, work plan development, and sampling and analysis of number sites to determine if contamination exists. Of these, number sites require further investigation to define the extent and movement rates of confirmed contaminants. The final phase of the IRP will include design, construction, and operation of pollution abatement facilities.

A contract to accomplish the recommendations of Phase II should be awarded time. (Add brief synopsis of recommendations.) A copy of the report is available at _____ Public Library.

ATTACHMENT 6

FACT SHEET

NATIONAL PRIORITIES LIST

1. The National Priorities List (NPL) is a vehicle used by the Environmental Protection Agency to prioritize funding for sites under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), commonly known as "Superfund." The list serves both as an information and management tool allowing the EPA to decide which sites need further investigation and response.

2. In the past, federally owned sites were not included on the list because, for all practical purposes, they were not eligible for "Superfund" money. However, congressional interest in seeing how federal facilities compared with those in the private sector led to the EPA's including them in their proposals for the first time in 1984.

3. The CERCLA legislation sets up a trust fund to help pay for cleaning up hazardous waste sites that potentially threaten public health or the environment. The fund is administered by the EPA. Although federal sites are still not eligible for "Superfund" money, they will now be included in the listings for information purposes only. Funds for the federal facilities will continue to come from sources other than CERCLA.

4. Placement on the list is through a Hazard Ranking System (HRS), designed to account for a standard set of factors related to the migration risk of contaminants through ground water, surface water, and air.

5. The present NPL lists 538 sites with scores ranging from 28.5 to 75.6. Sites on the list are further categorized into groups according to the severity of the problem. EPA considers those in a given group to have essentially equal priority.

6. On October 2, 1984, the EPA proposed 244 new sites for the NPL. Priority sites are those deemed to pose the greatest potential for long-term threat to human health and the environment. As a result of this proposed updating, there are now 786 sites under consideration, including 36 federally owned facilities.

7. The proposal of new sites is the first step in a strenuous rule-making process. Each site will be subjected to formal public review and comment before a final decision is made whether to place it on the list.

8. Of more than 18,000 potentially hazardous sites known around the nation, EPA has completed preliminary assessments at more than 10,000 sites, determining that about one in three is a hazardous waste site requiring field analysis and investigation. Field inspections have been conducted at more than 3,500 sites, resulting in hundreds of emergency clean-ups and identifying the priority sites on the National Priorities List. Of these, engineering studies have been started at 260 sites, with actual construction underway at 134.

Source: SAF/PAMS

APPENDIX D

GENERIC STATEMENT OF WORK
FOR PREPARATION OF A RAP

APPENDIX D

GENERIC STATEMENT OF WORK FOR
PHASE IV-A. REMEDIAL ACTION PLAN

1.0 Background

1.1 The Department of Defense (DOD) has initiated its four-phased Installation Restoration Program (IRP) for the purpose of identifying and evaluating suspected problems associated with past hazardous materials disposal and spill sites on DOD installations. Phase IV-A of the IRP is concerned with determining remedial methods necessary for mitigating site problems.

1.2 The statement of work (SOW) for Phase IV-A of the IRP effort at XYZ Air Force Base should include the screening, development, evaluation, selection, and description of a remedial action.

2.0 Objective

2.1 Select and describe the remedial actions that are appropriate for mitigating site problems through a process of screening, developing, and evaluating applicable control measures, individually and in combination.

3.0 Scope

3.1 The contractor shall provide the necessary personnel, facilities, and materials required to prepare the Remedial Action Plan (RAP) in accordance with the provisions of this contract.

3.2 All technical consultants required for this investigation will be provided by the contractor and will be qualified to provide expert witness testimony, if required.

3.3 The Phase I study resulted in the identification of three hazardous materials spill/disposal sites at XYZ Air Force Base and the recommendation for a Phase II investigation. As a result of the Phase II investigation, it was determined that remedial actions should be evaluated for each of the identified sites: fire department training area (FDTA), KC-97 crash site, and former landfill. (Attach appropriate maps or illustrations here.)

4.0 Site Description

4.1 XYZ Air Force Base is located (nearest town), (state) (refer to appropriate map) and has been in operation since 1942.

4.2 The FDTA is approximately 6 acres in size and is located within the northwest corner of the base. The area has been in use since 1951 by the XYZ Air Force Base Fire Department to simulate aircraft fires by burning waste oil products. A total of approximately 55,000 gallons of waste oil products has been burned in this area. As a result, a contaminated groundwater plume has developed within the ABC aquifer, which is a major source of drinking water for nearby communities.

4.3 The KC-97 crash site is located approximately 500 feet northwest of taxiway 2. An estimated 3,000-5,000 gallons of JP-4 and aviation gasoline was discharged at this location in 1979 when a KC-97 refueler aircraft ran off the runway and burned.

4.4 The former landfill is located approximately 750 feet west of hangar 6. This landfill was used primarily for domestic waste disposal from 1942 to 1974. However, fuels, solvents, and paint were discovered during the Phase II investigation.

4.5 The Final Phase I Records Search report dated ( ), the Phase II Confirmation Study report dated ( ), and five Quantification Study reports dated ( ), ( ), ( ), ( ), and ( ) provide complete descriptions of the sites and of their contamination problems. These reports are incorporated in this SOW by reference.

5.0 Description of Tasks

The contractor shall perform the following tasks for preparing the RAP:

5.1 Task 1: Screen Control Measures

All management methods and technologies relevant to remedying site problems shall be screened on the basis of feasibility, cost, and environmental and public health impacts to reduce the number of control measures to be considered for the development and review of detailed alternatives. Control methods shall not be eliminated solely due to an inability to meet standards. Innovative, unique, or unproved technologies that have relevant applications to site problems shall be brought to the attention of the Air Force. Task Report #1 shall be prepared to include control measures that passed the screening process as well as the rationales used for selecting and eliminating control measures.

5.2 Task 2: Develop Detailed Alternatives

Detailed alternatives shall be developed from the control measures that passed the screening process.

The alternatives will be described with sufficient detail to apply the evaluation and selection criteria discussed in the "Air Force Installation Restoration Program Management Guidance". The No Action alternative shall be developed as well. The descriptions of each detailed alternative shall include at a minimum:

- Identification of technologies incorporated;
- Key design assumptions that will affect performance, implementability, environmental impact, or cost;
- Measures needed to ensure worker safety during implementation; and,

- Identification of management methods incorporated such as land use controls, right-of-way acquisition, personnel training and supervision, permanent relocations, and coordination with Federal, State and local agencies.

The cost information for each detailed alternative shall include estimates of:

- Capital costs;
- O&M costs;
- Present worth analysis; and
- Sensitivity analysis.

Cost estimating and cost analyses shall be performed as described in EPA's "Remedial Action Costing Procedures Manual." The discount rate recommended in OMB circular No. A-94 at the time of submittal of the Preliminary Draft RAP shall be used in the present worth analysis.

If additional field or technology performance information is found to be necessary during the alternatives development process, the Air Force shall be notified.

Task Report #2 will document the development of detailed alternatives.

5.3 Task 3: Evaluate Detailed Alternatives

An evaluation of each detailed alternative shall be performed using five criteria:

- Engineering feasibility;
- Cost analysis;
- Public health analysis;
- Environmental assessment; and,
- Regulatory requirements.

The contractor shall prepare a narrative matrix that presents the major conclusion of the evaluation of each detailed alternative.

5.3.1 The engineering feasibility criterion shall focus on performance, reliability, and implementability.

5.3.2 When performing the cost analysis, four types of costs shall be examined:

- o Capital costs;
- o O&M costs;
- o Best estimates of present worth; and,
- o Range of present worth calculated from the sensitivity analysis.

These costs shall provide the basis for comparing the costs of the detailed alternatives and shall be summarized in a table. All major uncertainties in costs shall be discussed, and recommendations shall be made for dealing with them.

5.3.3 The public health analysis shall focus on three areas:

- o Degree of immediate and long term public health protection;
- o Levels at which remedial alternatives reduce adverse long term effects of residual contamination; and,
- o Worker health and safety.

5.3.4 The factors to be considered in performing the environmental assessment can be divided into two categories. For the No Action alternative, the environmental assessment shall include:

- o Determination of the value or uses of the land, water, air, and biotic resources that are or threaten to become contaminated;

- o Identification and, to the extent practicable, quantification of environmental impacts that exist or are likely to develop; and,
- o Assessment of the significance of those impacts.

The environmental assessment of detailed alternatives shall address impacts on hydrology, geology, air quality, flora and fauna, socioeconomics, land use, and cultural resources to the extent that any such impacts distinguish among alternatives or are otherwise significant to the selection of the best alternative. Reasonable means of mitigating adverse impacts will also be identified.

The contractor shall notify the Air Force in a timely manner if any of the detailed alternatives that may be selected for implementation have significant adverse impacts that may not be successfully mitigated.

5.3.5 Detailed alternatives shall be reviewed for their level of compliance with standards, regulations, guidances, advisories, and ordinances. The safety and practicality of an alternative shall be reviewed when requirements are not definitive or achievable. The time needed to obtain permits or achieve compliance with standards shall be reviewed for each alternative.

Task Report #3 shall be prepared regarding the evaluation of detailed alternatives in terms of each of the evaluation criteria. The report shall also include a table summarizing the cost analysis for each detailed alternative and the narrative matrix.

5.4 Task 4: Describe Selected Alternative.

The contractor shall determine which alternative best meets Air Force objectives and will describe it, in detail, including the following information:

- o Engineering Description
  - Conceptual design criteria and rationale

- Operational description of process units or other facilities
- Description of O&M
- Unique structural concepts for facilities
- Types of equipment required, including approximate capacity, size, and materials of construction
- List of additional engineering data required to proceed with design
- Preliminary project schedule
- Conceptual plan view drawing(s) of overall site showing general locations for project actions and facilities

o Cost Analysis

- Implementation cost estimates
- O&M cost estimates and duration of operating expenses

o Regulatory Compliance

- Construction and environmental permit requirements
- Description of technical requirements for environmental mitigation measures
- Right-of-way requirements

The description shall be comprehensive and of sufficient detail for use as a baseline document for the design and construction of the selected remedial alternative. The description will be incorporated into the Peer Review Draft RAP.

5.5 Task 5: Prepare Environmental Assessment

The contractor shall prepare a separate report, the Environmental Assessment, that documents all environmental analysis conducted in support of RAP preparation. The Environmental Assessment shall include summary descriptions of detailed alternatives considered in the RAP, environmental

impact analyses of each alternative, either references for all data cited or the actual data used in support of the analyses, and descriptions of mitigating measures appropriate for use with each detailed alternative.

5.6 Task 6: Prepare Peer Review Draft RAP

The contractor shall prepare the Peer Review Draft RAP. The report shall include an introduction and task reports 1, 2 and 3. The contractor shall recommend a remedial action alternative and provide the basis for the recommendation.

5.7 Task 7: Assist MAJCOM with Peer Review

The contractor shall prepare briefing documents such as vugraphs or slides that highlight the major alternatives considered for final selection, including the narrative matrix. The contractor's manager and principal investigator or project engineer will present the briefing at a peer review meeting to be scheduled by the proponent MAJCOM.

5.8 Task 8: Prepare Preliminary Draft RAP

The contractor shall prepare the Preliminary Draft RAP. The report shall include all changes and recommendations made at MAJCOM's request based on peer review.

5.9 Task 9: Prepare Final Draft RAP

The contractor shall prepare the Final Draft RAP to include any revisions of the Preliminary Draft RAP made by MAJCOM or AFIRM.

5.10 Task 10: Attend Public Hearings and Prepare Final RAP

The contractor shall prepare for and attend public hearings. The contractor shall prepare the Final RAP to include documentation of any modifi-

cations of the Final Draft RAP, technical considerations, MAJCOM's responses to agency and public comments, and either a Record of Decision or Decision Document.

5.11 Task 11: Project Coordination

The contractor shall attend an initial coordination meeting. The agenda of the meeting will include:

- o Site visits;
- o Onsite support by and coordination with installation personnel;
- o Previous studies;
- o Requirements for additional site investigation;
- o Technical or organizational complexity;
- o Public controversy and community relations planning;
- o RAP contractor's participation in coordination with regulators;
- o Environmental sensitivity and documentation;
- o Public health significance of the uncontrolled site(s);
- o Unique site characteristics; and,
- o Schedule for task completion.

The contractor shall prepare monthly progress reports to include a description of what has been accomplished, problems that have been encountered, and an estimated percentage of completion.

6.0 Labor Estimate

A labor estimate, including personnel and man hours for each task and subtask, shall be submitted in the format provided in Figure 1. The project weeks and elapsed time are based on assumptions used to develop the schedule. If additional tasks are added, they shall be assigned as subtasks to the existing tasks.

Figure 1. Example Labor Estimate Format

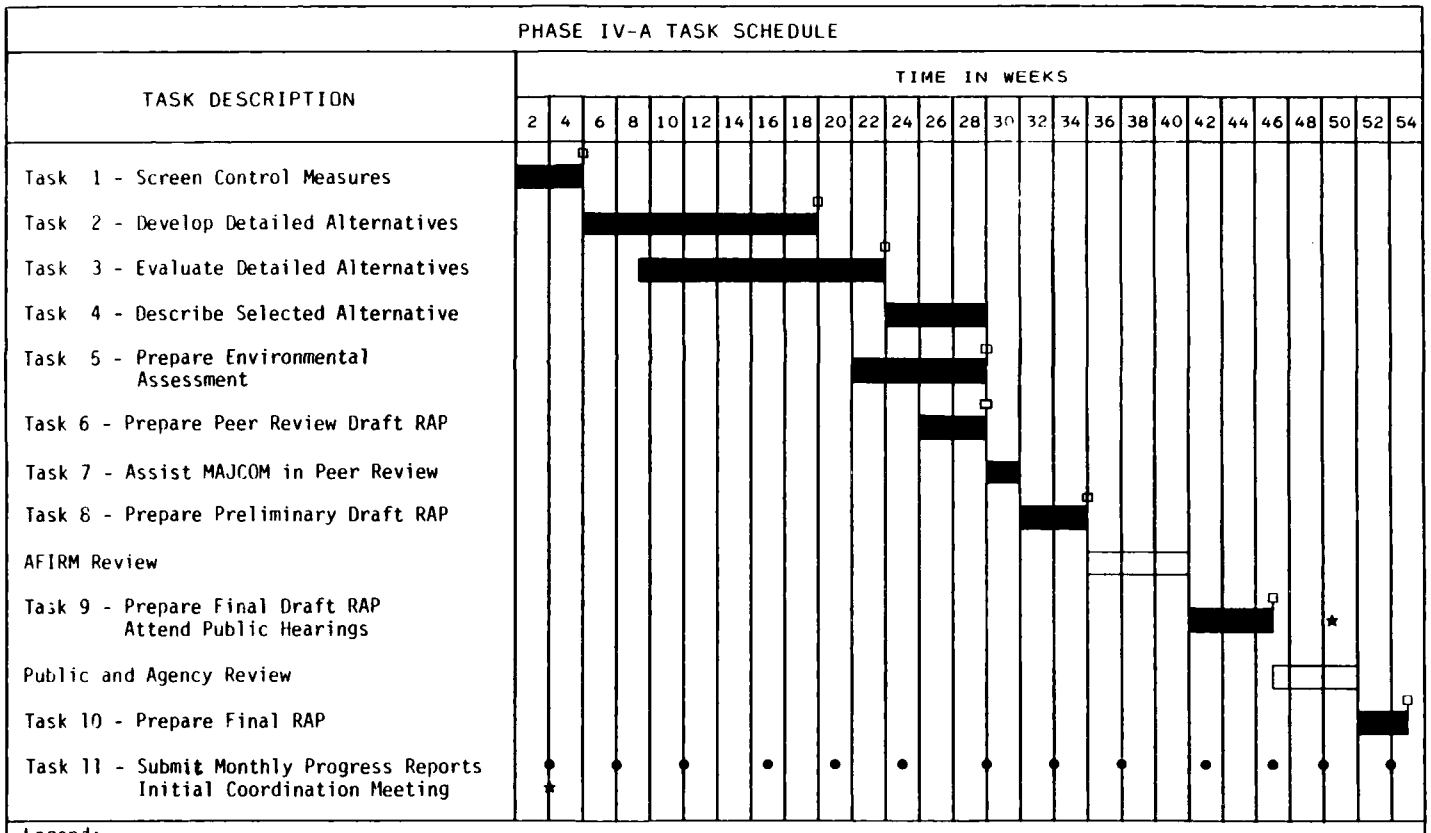
TASK	PROJECT WEEKS	ELAPSED TIME	PERSONNEL	MAN HOURS

7.0 Schedule

7.1 The Phase IV-A schedule, presented in Figure 2, illustrates the schedule for tasks and the time frames for coordination of document deliverables and milestones. The overall duration of the Phase IV-A work for XYZ Air Force Base is estimated as 53 weeks. (This schedule makes general assumptions regarding the duration of Air Force review periods and public and agency interactions. Therefore, this schedule should be modified for each SOW as appropriate).

Figure 2

PHASE IV-A TASK SCHEDULE



Deliverables*

	Deliverable	Date Due
Task 1	o Task 1 Report Screened Control Measures	4 Weeks After Notice to Proceed
Task 2	o Task 2 Report Development of Detailed Alternatives	18 Weeks After Notice to Proceed
Task 3	o Task 3 Report Evaluation of Detailed Alternatives	22 Weeks After Notice to Proceed
Task 4	o Describe Selected Alternative	28 Weeks After Notice to Proceed
Task 5	o Prepare Environmental Assessment	28 Weeks After Notice to Proceed
Task 6	o Prepare Peer Review Draft RAP	28 Weeks After Notice to Proceed
Task 7	o Assist MAJCOM in Peer Review	30 Weeks After Notice to Proceed
Task 8	o Prepare Preliminary Draft RAP	34 Weeks After Notice to Proceed
Task 9	o Prepare Final Draft RAP	2 Weeks After MAJCOM Instruction to Commence Task
Task 10	o Attendance at Public Hearings	To Be Scheduled
Task 10	o Final RAP	3 Weeks After MAJCOM Instruction to Commence Task
Task 11	o Monthly Progress Reports	15th of Each Month
Task 11	o Coordination Meeting	2 Weeks After Notice to Proceed

*The IRP project officer, normally the base environmental coordinator, should attempt to see that the schedule of deliverables is met/maintained.

APPENDIX E

EPA/DOD MEMORANDUM OF UNDERSTANDING

APPENDIX IV

MEMORANDUM OF UNDERSTANDING BETWEEN THE DEPARTMENT OF DEFENSE AND THE ENVIRONMENTAL PROTECTION AGENCY FOR THE IMPLEMENTATION OF P.L. 96-510 THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (CERCLA)

1. PURPOSE

The Department of Defense (DOD) and the Environmental Protection Agency (EPA) are entering into this agreement to clarify each Agency's responsibilities and commitments for conducting and financing response actions authorized by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and specifically delegated by Executive Order 12316.

This agreement does not redelegate any responsibilities set out in Executive Order 12316. Rather, it seeks to clarify respective operational roles, responsibilities, and procedures. This agreement does not create any substantive or procedural rights in other parties, does not affect enforcement rights and remedies with regard to any party, and is intended only for Federal administrative purposes of EPA and DOD.

These responsibilities and procedures are guided by the following:

- DOD facilities are defined as government-owned, government-operated facilities controlled by DOD; and government-owned land controlled by DOD that are either contractor-operated or leased to other parties.
- DOD is generally responsible for financing actions taken in response to releases from DOD facilities, or assuring that another party finances such actions.
- DOD and EPA will conduct response actions consistent with response procedures established by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).
- At DOD's request and in its discretion, EPA will provide DOD with technical assistance to support the response actions conducted by DOD.
- Civil works activities of the Department of Army Corps of Engineers are not subject to the terms of this agreement.

DOD will consult with EPA concerning the best techniques and methods available for the prevention, control, and abatement of environmental pollution

2. BASIS OF AGREEMENT

CERCLA provides a comprehensive framework for response to the release or potential release of hazardous substances, pollutants, and contaminants.

Section 104 of CERCLA and Executive Order 12316 place authority for responding to releases from DOD facilities with the Secretary of Defense. These response actions must be conducted in accordance with the NCP as amended by EPA under section 105 of CERCLA.

3. RESPONSIBILITIES AND RESPONSE PROCEDURES

For purposes of this agreement, releases of hazardous substances are divided into three categories:

- Releases from current DOD facilities;
- Releases from former DOD facilities; and
- Other releases for which DOD is a responsible party.

For each category, section 3 describes procedures to be followed by DOD and EPA in determining which Agency will conduct and/or finance the response action consistent with CERCLA, the requirements of Executive Order 12316, and the NCP. At DOD's request and in its discretion, EPA will provide technical assistance or serve in an advisory role when DOD conducts a response.

3.1 Releases from Current DOD Facilities

a. DOD facilities with on-facility contamination and no off-facility contamination

When there is contamination on a DOD facility and no off-facility contamination, DOD will conduct and finance the response action or assure that another party does so. At DOD's request, EPA will provide technical assistance or serve in an advisory role. This section does not apply to releases for which DOD is not a responsible party under section 107(b) of CERCLA (e.g., "midnight dumping").

b. DOD facilities with off-facility contamination

When there is off-facility contamination and clear evidence that a DOD facility is the sole source, DOD will conduct and finance the response action or assure that another party does so. At DOD's request, EPA will provide technical assistance to DOD.

When there is off-facility contamination and no clear evidence that a DOD facility is the sole source, EPA will finance and conduct investigations and studies off-facility to determine the source and extent of the contamination and recommended response action. DOD will finance and conduct investi-

gations and studies on the DOD facility to determine the source and extent of the contamination and the recommended response action. DOD and EPA will coordinate these efforts and resulting decisions to minimize costs and duplication of activities, and will exchange all reports, studies, and other relevant site information.

If after DOD and EPA review these investigations, it is determined that the DOD facility is the sole source of the contamination, DOD will conduct and finance the response action or assure that another party does so and will reimburse EPA for costs EPA expended at the site.

If after DOD and EPA review these investigations, it is determined that the DOD facility is one of two or more sources of the contamination, EPA and DOD will jointly determine the most appropriate response and financing methods.

3.2 Releases from Former DOD Facilities

a. Releases from former DOD facilities, when DOD is the sole responsible party

If EPA, in consultation with DOD, determines that a former DOD facility is the sole source of the contamination, DOD will finance any response action, including off-facility response actions or will assure that another party does so. If EPA agrees, DOD may choose to conduct the response action. If EPA conducts the response action, DOD will reimburse the Hazardous Substance Response Trust Fund (Fund) for the action. EPA concurrence is required before DOD conducts a response action.

In cases where DOD disagrees with the determination of responsibility, proposed action, or its cost, DOD may use the dispute resolution section of this agreement.

b. Releases from former DOD facilities, when DOD is one of two or more responsible parties

If EPA, in consultation with DOD, determines that DOD is one of two or more parties responsible for the contamination, EPA will conduct and finance the response action and EPA, in consultation with DOD, will determine the appropriate response costs. DOD will reimburse EPA that amount.

If EPA agrees, DOD may choose to conduct the response action. If EPA conducts the response action, DOD will reimburse the Hazardous Substance Response Trust Fund (Fund) for the action. EPA concurrence is required before DOD conducts a response action.

In cases where DOD disagrees with the determination of responsibility, proposed action, or its cost, DOD may use the dispute resolution section of this agreement.

3.3 Other Releases for Which DOD is a Responsible Party

When there is a release for which DOD is a responsible party, and does not involve a current or former DOD facility, EPA will investigate the need for a response action, and the extent of responsibility of different parties for the

release, including DOD's responsibility. EPA, in consultation with DOD, will determine the appropriate response costs and DOD will reimburse EPA that amount. If EPA agrees, DOD may choose to conduct the response action for the portion of the release for which it is responsible. EPA concurrence is required before DOD conducts a response action.

For releases from DOD vessels, including vessels owned or bareboat chartered and operated, DOD and EPA will jointly determine the most appropriate response.

In cases where DOD disagrees with the determination of responsibility, proposed action, or its cost, DOD may use the dispute resolution section of this agreement.

4. FUNDING OF RESPONSE

DOD will request sufficient funds in its budget to pay for response actions programmed by the Department under this agreement. DOD will ensure that projects in this budget program are listed in the same manner as other environmental projects under OMB Circular A-106.

When EPA undertakes a response for which DOD is responsible under CERCLA, DOD will reimburse the Fund for its share. Where funds are not immediately available for reimbursement, DOD's next fiscal year budget request will include a request for Fund reimbursement. Provisions of this agreement for payment by DOD shall not be construed as affecting the particular source of appropriations for payment by the government, including special appropriations or 31 U.S.C. 724a.

Any commitment of funds is subject to the availability of appropriations.

Each Agency will maintain records of all costs incurred which may involve payments to or from the Fund and will provide documentation of these costs at the other Agency's request.

5. COMMUNITY RELATIONS

When EPA undertakes a response action, EPA will be responsible for establishing a community relations program for the site, as specified in the Guidance for Implementing the Superfund Program (Part III, Section 4).

When DOD undertakes a response action, DOD will be responsible for providing information to the local community.

For EPA and DOD actions at the same site, EPA and DOD will conduct a joint community relations program.

6. EXCHANGE OF INFORMATION

DOD and EPA will exchange information on a regular basis. EPA and DOD will inform each other at the earliest possible stage of any evidence of contamination, types of contamination, and potential actions. EPA and DOD will

keep each other informed regarding the type and availability of data or information. Such data or information will be made available upon request, subject to Agency technical or peer review. Upon request and following Agency technical or peer review, DOD and EPA will submit drafts of specific technical reports to each other for review. Review comments will be addressed in final reports.

Agency technical or peer review will be expedited when information is requested. All requests for data or information will be responded to within ten working days of the request.

EPA and DOD will notify each other prior to providing the other Agency's information or data to another party. All confidential business information exchanged under this agreement is subject to procedures set forth at 40 CFR Part 2.

This section applies to information related to all releases under section 3 of this agreement, including releases under section 3.1.

7. RESOLUTION OF INTERAGENCY CONFLICTS

Any conflict arising under this agreement will be resolved at successive levels of Agency decisionmaking until agreement is reached. The EPA Regional Administrator and the Commanding Officer of the Defense Component Major Command in question will first attempt to resolve any disputes. Failing resolution, the EPA Assistant Administrator for Solid Waste and Emergency Response and the appropriate Military Department Assistant Secretary will attempt to reach agreement. If this is unsuccessful, the matter will be referred to the EPA Administrator and the Secretary of Defense.

The dispute resolution process is not a substitute for necessary and timely removal actions, and each Agency reserves rights otherwise provided by law to pursue any response or enforcement actions.

8. MULTIPARTY AGREEMENTS

Where appropriate, EPA Regional Offices and DOD installations may enter into agreements with State and local authorities regarding response actions. Such agreements must be consistent with this agreement, except that dispute resolution sections of such agreements may supersede section 7 of this MOU.

AMENDMENTS

This agreement may be amended at any time by mutual agreement of EPA and DOD. Amendments will be in writing, and will be signed by appropriate DOD and EPA officials.

PERIOD OF AGREEMENT

Unless ended or extended by mutual agreement, this MOU will continue in effect until December 1, 1985. This agreement may be terminated upon notification by either DOD or EPA to the other party. A minimum of ninety days'

advance written notice of termination is required.

11. EFFECTIVE DATE

This agreement will become effective upon signature of both parties.

Lawrence J. Korb

LAWRENCE J. KORB
Assistant Secretary of Defense
(Manpower, Reserve Affairs and
Logistics)

Date: August 9, 1983

LEE M. THOMAS
Assistant Administrator
Office of Solid Waste and Emergency
Response

Date: AUGUST 12, 1983

APPENDIX F

REMEDIAL ACTION PLAN REPORT FORMAT

Remedial Action Plan

Report Format

Executive Summary

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APPENDIX G
PHASE IV GUIDANCE - ENVIRONMENTAL IMPACT ANALYSIS PROCESS

PHASE IV GUIDANCE
Environmental Impact Analysis Process

1. The National Environmental Policy Act of 1969 (NEPA) as implemented by AFR 19-2 applies to the Air Force's Installation Restoration Program. NEPA's primary goal is to incorporate environmental considerations into the decision making process. The procedural requirements of NEPA are followed to insure that the environmental impacts of a proposed action are known, fully disclosed and weighed with other aspects of the action.

NEPA is used in the IRP to evaluate the environmental consequences of remedial action alternatives and to aid the decision maker in the selection of the appropriate alternative. The National Contingency Plan (NCP) requires at Section 300.68(i)(2)(D):

> An assessment of each alternative in terms of the extent to which it is expected to effectively mitigate and minimize damage to, and provide protection of, public health, welfare and the environment relative to the other alternatives analyzed;

and, at Section 300.68(i)(2)(E):

> An analysis of any adverse environmental impacts, methods to mitigate these impacts, and costs of mitigation.

The Environmental Impact Analysis Process (EIAP) will meet these requirements. The EIAP for remedial action alternatives should address both beneficial and adverse impacts; i.e., (1) any adverse environmental impacts associated with the implementation of the alternatives, and (2) the expected environmental benefits associated with each alternative. The EIAP, in essence, can be regarded as providing the environmental "pros and cons" of each remedial action alternative which will meet the objective of the Phase IV action. The EIAP must result in a stand alone document, although it can make reference to information from other sources (e.g., the Remedial Action Plan). A Remedial Action Plan cannot substitute for AF Forms 813 or 815, with supporting documentation such as EAs and FONSIs. The environmental documents must be completed and considered by the appropriate decision maker before a remedial action is implemented. The environmental documents should be prepared concurrently with the Remedial Action Plan.

This section provides guidance for the preparation of the EIAP document for the proposed remedial action alternatives. The

evaluation of these alternatives should be performed by persons having expertise in the environmental sciences and should utilize the best available data and evaluation techniques appropriate for the particular site and alternatives being considered.

2. The majority of the EIAP documents for the IRP remedial actions will probably be CATEXs or Environmental Assessments (EA). Since the most serious or controversial sites will be addressed early in the IRP, EAs will, no doubt, be appropriate for most of these sites. As the program matures, experience will be gained and the potential seriousness of the sites being reviewed should be better understood. CATEXs therefore may be developed which apply to certain types of remedial actions. As experience is gained, CATEX 2A may be appropriate for certain remedial actions in the future. However, CATEX 2Y is not normally appropriate for remedial action and should be used in very limited circumstances. For example, the remedial action of merely performing periodic sampling and analysis for a number of years to insure that a previous disposal site remains stable could qualify for CATEX 2Y. For those sites requiring an EA the proposed action should be the goal of the particular remedial action to be undertaken. The EA will focus on the final remedial action alternatives which are developed during the screening process. The EA must also include the "no action" alternative. The "no action" analysis would describe the current site situation and the anticipated environmental conditions if no remedial action is taken. The analysis of alternatives should: (1) determine the value (or uses) of the areas that are, or are threatened to be contaminated, (2) identify the types of environmental impacts that exist or are likely to develop, and (3) assess the general significance of these impacts to the area. A FONSI would be written for those alternatives, if any, which would accomplish the proposed action, i.e., the objective or goal, if they have no significant impacts on the environment. If the FONSI also applies to the "no action" alternative, one should question whether any remedial action is required. For those sites in which a significant impact to the human environment would result if a particular remedial action alternative is recommended, an EIS would be required before the final decision to implement that alternative could be made. If there are actions that are candidates for an EIS, AF/LEEV should be contacted for further guidance.

3. The EIAP's level of detail will be determined case by case but should be adequate to:

a. fully identify the adverse environmental impacts of the remedial action alternative(s) and discuss measures for alleviating and mitigating those impacts, and

b. identify the expected environmental benefits of the remedial action alternative(s).

c. summarize the expected adverse and beneficial impacts of each alternative in an attempt to identify the most environmentally beneficial and adverse remedial action alternatives.

d. determine whether an EIS should be prepared; when not, the EA should serve to assure the AF and other interested parties that the impacts associated with the implementation of the selected alternative are understood and will not have a significant environmental impact.

4. The evaluation of the environmental effects of remedial action alternatives may include an analysis of the impacts on hydrology, geology, air quality, flora and fauna, socio-economics, land use and cultural resources. In general, each remedial action alternative should be evaluated on the basis of the following:

a. Beneficial effects of the remedial action

- positive changes in the release of contaminants and final environmental conditions,
- improvement in the biophysical environment.
- improvement in human use potential, i.e., commercial, residential, recreational, aesthetic and cultural resources.

b. Adverse impacts of the remedial action

- to include expected adverse impacts during the implementation activities of the remedial action.
- mitigation measures which could lessen the impacts of the remedial action.
- to include relative risks of the off-site disposal of contaminants (i.e., likelihood of future releases from disposal sites if sub- stances are persistent, highly mobile or bio- accumulate readily).

The evaluation should discuss both primary and secondary effects of the remedial action alternatives.

APPENDIX H

SAMPLE FORMS 1473 and DTIC 50

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S) RAP/FD-85-05
6a. NAME OF PERFORMING ORGANIZATION Harzardous Materials Technical Center 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION Air Force Engineering and Service Center
6c. ADDRESS (City, State, and ZIP Code) Dynamac Building 11140 Rockville Pike Rockville, Maryland 20852	7b. ADDRESS (City, State, and ZIP Code) AFESC/DEVP Tyndall AFB, Florida 32403
8a. NAME OF FUNDING / SPONSORING ORGANIZATION 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State, and ZIP Code)	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) Remedial Action Plan-Refabrication Shop Lagoon, Del Aguila Air Force Base	
12. PERSONAL AUTHOR(S)	
13a. TYPE OF REPORT Final Draft 13b. TIME COVERED FROM 1984 Feb TO 1985 Oct	14. DATE OF REPORT (Year, Month, Day) 1985, October 25 15. PAGE COUNT 95
16. SUPPLEMENTARY NOTATION	
17. COSATI CODES FIELD / GROUP / SUB-GROUP	18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number) Remedial Action Hazardous Waste

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Alternatives for controlling releases of organic solvents and heavy metals from an abandoned industrial waste lagoon are developed and evaluated. Releases include contamination of a sole source aquifer over an area of .75 square miles and erosion of lagoon sediments through a breach in the lagoon dike with runoff entering off base catfish ponds. An emergency response was implemented during preparation of the Remedial Action Plan that involved repair of the lagoon dike. The preferred alternative for permanent Remedial Action includes: dewatering and excavating lagoon sediments, sediment disposal at a controlled landfill, lagoon regrading, surface drainage controls, groundwater pumping and groundwater treatment by air stripping and chemical precipitation.

20. DISTRIBUTION / AVAILABILITY OF ABSTRACT ☐ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION Unclassified
22a. NAME OF RESPONSIBLE INDIVIDUAL	22b. TELEPHONE (Include Area Code) / 22c. OFFICE SYMBOL

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APPENDIX I

REQUIREMENTS FOR
RECORDS OF DECISION

ROD CONTENT AND FORMAT

The ROD package includes three documents. Formats for these are included in this appendix. These include:

(1) Format for the ROD

(2) Format for the Summary of Remedial Alternative Selection

(3) Format for the Community Relations Responsiveness Summary

The primary purpose of the ROD and supporting information is to document that the remedial action is consistent with CERCLA and the NCP. Generally, this will involve making the determinations required by CERCLA and the NCP in the ROD signed by the appropriate MAJCOM official. In addition, the key steps in preparing the Remedial Action Plan (RAP) must be summarized in the Summary of Remedial Alternative Selection to show that the NCP decision making process has been followed. If the RAP does not contain the required information (such as evaluation of alternatives that attain and exceed applicable and relevant Federal public health and environmental standards) the ROD package must include this information. In this way any significant gaps in the RAP will be filled. The following list describes subjects that must be discussed in the ROD or summary information.

1. Consistency with NCP. The summary information must show that alternatives were developed, screened, and evaluated in accordance with sections 300.68(g) through (i) of the NCP. When the RAP is adequate in this area, the ROD document should briefly summarize the process and reference the RAP for additional information.

2. No-action alternative. Under section 300.68(g) of the NCP, a no-action alternative must be evaluated. The ROD summary must document that no-action was evaluated and describe the reasons for elimination of no-action (e.g., the release poses an actual or potential threat to public health or the environment).

3. Extent of remedy. The ROD summary must explain how the level of cleanup for the recommended remedy was determined. The remedial action may be based on applicable and/or relevant Federal public health or environmental standards. When standards are used, the ROD summary must document how the standards will be applied and describe the engineering approach to cost-effectively implement the standards. If the recommended alternative does not attain or exceed applicable or relevant standards, the ROD summary must describe how the circumstances for non-compliance are consistent with DoD policy.

4. Cost estimates. Costs must be shown for all detailed alternatives evaluated in the RAP. A table showing the remedial action cost, annual operation and maintenance (O&M) cost, and total present worth should be included. If existing data cannot support an adequate cost estimate, submission of the ROD should be delayed until additional field data can be collected and the cost estimates revised.

5. Evaluation of Alternatives. The factors used to screen and evaluate alternatives are described in section 300.68(h) and (i) of the NCP. The ROD summary must indicate what factors were used to screen and evaluate alternatives. The RAP must include a narrative matrix that highlights the advantages and disadvantages of each factor for all detailed alternatives. The narrative matrix may be incorporated into the ROD summary to show the results of the evaluation of alternatives.

6. CERCLA section 101(24). If all or part of the recommended remedial action involves off-site transport, storage, destruction or disposal of hazardous wastes, the requirements of section 101(24) must be met. The remedial action, or component involving off-site activities, must be more cost-effective than other remedial actions, create new capacity to manage hazardous substances in addition to those at the facility, or be necessary to protect public health, welfare, or the environment from a present or potential risk. This determination is included in the ROD and must be discussed in the ROD summary document.

7. Responsiveness Summary. The responsiveness summary, included as a part of the final ROD package, must include a summary of comments received before and during the public comment period as well as activities conducted to elicit citizen input. Comments for all parties must be summarized. The summary must respond to comments and discuss at an appropriate level of detail: (1) any changes made due to comments received; (2) how the selected remedy differs from the commentors' preferred alternatives; and (3) any alternatives recommended that were not evaluated in the RAP. Comments received after the close of the comment period raising new issues or providing new information should be considered and addressed to the extent practicable in light of site specific needs to take timely action in implementing the remedial action.

8. Operation and Maintenance (O&M). If the recommended remedial action requires future O&M, the ROD should describe the O&M activities being approved. The ROD summary should describe the estimated duration and cost of O&M activities.

The remainder of this appendix includes sample formats for:

- the Record of Decision;
- the Summary of Remedial Alternative Selection; and,
- the Community Relations Responsiveness Summary.

SAMPLE

RECORD OF DECISION
REMEDIAL ALTERNATIVE SELECTION

SITE: [Site name, location]

DOCUMENTS REVIEWED

I am basing my decision on the following documents describing the evaluation of remedial alternatives for the [site name];

- Remedial Action Plan
- Summary of Remedial Alternative Selection
- Responsiveness Summary
- [Other relevant reports or documentation of the remedy selection process]

Note: Care should be taken to list all documents used to reach the final decision. Secondary references included in the listed documents need not be listed here.

DESCRIPTION OF SELECTED REMEDY

- [List major components of remedy]
- [List operation and maintenance requirements]

DECLARATIONS

Consistent with the Comprehensive Environmental Response Compensation, and Liability Act of 1980 (CERCLA), and the National Contingency Plan (40 CFR part 300), I have determined that the [description of remedy] at the [site name] is a cost-effective remedy and provides adequate protection of public health, welfare, and the environment. The State of [State name] has been consulted and agrees with the approved remedy. [Include the following if appropriate]

In addition, the action will require future operation and maintenance activities to ensure the continued effectiveness of the remedy.

[Include the following sentence if remedy involves off-site actions] In addition, the off-site transport, storage, destruction, treatment, or secure disposition [use appropriate wording based on actual remedy] is more cost-effective than other remedial action, [include the following if appropriate] and is necessary to protect public health, welfare or the environment.

_____ _____

Date

(Appropriate MAJCOM Official)

SAMPLE

SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

[Site Name]

SITE LOCATION AND DESCRIPTION

Describe the site in terms of:

- location, address (include maps, site plan as appropriate)
- area of site, topography, located in floodplain
- adjacent land uses
- location and distance to nearby populations
- general surface and ground water resources
- surface and subsurface features (e.g., number and volume of tanks, lagoons, structures, drums)

Note: This section should not exceed two paragraphs.

SITE HISTORY

Describe site history in terms of:

- how site was established
- period of operations
- history of ownership
- site uses over period of operation, (type of wastes received, treatment/storage/disposal practices)
- type of permits applied for and/or approved, permitting authority
- history of releases

- previous response actions (e.g., emergency responses or simple removals)

Note: This section should not exceed two paragraphs.

CURRENT SITE STATUS

Describe results of confirmation and quantification studies:

- describe quantity, types, and concentrations of hazardous substances present (summarize in tables and figures)
- describe known or suspected risks from substances
- extent of contamination (lateral and vertical)
- describe surface and subsurface pathways of migration (e.g., leachability of contaminated soil, soil permeability, depth to ground water)
- location and number of affected receptors (actual or potential)

Note: This section should summarize only the information related to the proposed remedy and maximize the use of maps and figures.

ALTERNATIVES EVALUATION

Describe if actions are source control or off-site measures (40 CFR Part 300.68(e)(2) or (3)).

Describe results of RAP:

- identify public health and environmental objectives (if possible describe which objectives are for public health protection and which are for environmental protection)
- list all alternatives considered (a no-action alternative must be included)
- identify an on-site alternative that fully complies with other appropriate environmental laws (e.g., RCRA, TSCA)
- describe the alternative screening process (must be consistent with 40 CFR Part 300.68(h)). Alternatives screened do not generally need to be described separately

- briefly explain why alternatives were eliminated during screening

- describe detailed analysis of final alternatives (must be consistent with 40 CFR Part 300.68(i)), discuss factors used to evaluate effectiveness and results of evaluation

- list alternatives with cost estimates (capital, O&M and present worth) for comparison with effectiveness evaluation

Note: This section should briefly summarize the above information.

COMMUNITY RELATIONS

- briefly describe the community's level and nature of concerns or support for each alternative

CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

- identify technical requirements of other environmental laws and regulations that could apply to the final site actions (e.g., RCRA, TSCA, CWA, floodplain management)

- describe the alternative that would satisfy the appropriate technical requirements (if an alternative was not developed during the RAP one must be developed for this analysis)

- use regulatory compliance alternative as a baseline to compare other alternatives

- if recommended alternative does not comply, describe the differences (e.g., liner/leachate collection is not provided for on-site containment)

- describe key requirements that will be complied with (e.g., RCRA ground water monitoring plan, floodplain assessment (Executive Order 11988), PCB disposal requirements)

RECOMMENDED ALTERNATIVE

- reference 40 CFR Part 300.68(j) description of cost-effectiveness

- describe how the recommended alternative meets the cost-effectiveness requirement

- compare recommended alternative to other alternatives, and explain why other alternatives are not cost-effective (e.g., cost, reliability, less than adequate public health protection)

- prepare tabular summary of alternatives using attached samples
- summarize capital and O&M costs of alternative
- attach appropriate tables or figures describing alternative

OPERATION AND MAINTENANCE (O&M)

- describe projected O&M activities required to ensure effectiveness of remedy; include on- and off-site monitoring plans
- list estimated annual O&M costs and durations

SCHEDULE

List key milestones and dates for project implementation:

- approve remedial action (sign ROD)
- award design contract
- start design
- complete design
- award construction contract
- start construction
- complete construction

FUTURE ACTIONS

Describe future remedial activities that are required to complete site response:

- second operable unit (e.g., for ground water mitigation)
- long-term O&M to maintain effectiveness of remedy

COMMUNITY RELATIONS RESPONSIVENESS SUMMARY

[SITE NAME]

INTRODUCTION

The responsiveness summary documents for the public record:

- Concerns and issues raised during remedial planning.
- Comments raised during the comment period on the RAP.
- How the installation considered and responded to these concerns.

CONCERNS RAISED PRIOR TO THE RAP COMMENT PERIOD

Briefly describe:

- Major concerns and issues raised by local officials, potential liable parties, and citizens. The level of concern over each of the major issues should be discussed. Include the number of times a concern was raised, the number of people raising the concern and names of individuals or groups raising concerns and issues when appropriate.
- Activities conducted by the installation to elicit citizen input and to address specific concerns and issues; for example, small group meeting, news conference, and progress reports.
- Changes in any remedial planning activities as a result of concerns raised.

CONCERNS RAISED DURING THE COMMENT PERIOD

Briefly describe comments on the RAP made by local officials, potential responsible parties and citizens:

- Categorize comments by major issue or topic addressed.
- Summarize comments under the categories as completely as possible. Do not be so brief that the essence is lost. For example, "concern about health effects" is not specific enough. Which health effect is the community worried about?
- Discuss the level of concern over each of the major issues. Include how many times the comment was raised and the number of people raising the concern. Include names of individuals and groups raising concerns and issues when appropriate.

- Discuss when the comment period started and stopped. Mention when, where and level of attendance at public meeting, if held.

RESPONSE TO COMMUNITY CONCERNS

Explain Installation response:

- Note whether staff met with concerned citizens or conducted other communication activities during the comment period such as a public meeting or availability of technical staff to respond to questions.

- Document any modifications or changes in the remedial alternative as a result of comments.

- Give the reasons for rejecting the community's preferred alternative if the Installation selected alternative is different. The citation of "CERCLA" alone does not explain the Installation's rationale. A more detailed explanation is required.

- Document in detail any alternatives provided by the public which are not evaluated in the RAP.

- Include any letters, reports, etc., received from potentially responsible parties.

REMAINING CONCERNS

Briefly explain:

- Any areas of community concern that require the installation's attention during remedial design and construction.

- How the installation intends to resolve any outstanding concerns.

APPENDIX J

DECISION PAPER (DP) FORMAT

DECISION PAPER (DP) FORMAT

Background:	- Historical perspective and statement of the problem
Facts:	- Description of the site, to include reference to Phase I and II studies
	- Discussion of Alternatives
	- Justification of Selection (cost, feasibility, etc.)
	- Statement that the Environmental Impact Analysis Process has been conducted as part of the decision.
Conclusion:	- A concise statement describing the rationale for selection of the remedial action.
Signature Block:	- To be signed at MAJCOM (normally MAJCOM/DE) or delegated to the Installation Commander or the Base Civil Engineer. The document will be coordinated with appropriate staff agencies.

NOTE: The Decision Paper should be 1 to 2 pages in length.

APPENDIX K

GENERIC SITE HEALTH AND SAFETY PLAN

(From U.S. Corps of Engineers' Regulation No. ER 385-1-92, "Safety and Occupational Health Document Requirements for Hazardous Waste Site Remedial Actions," 30 August 1984)

APPENDIX A
BASIC ELEMENTS
GENERIC SITE SAFETY PLAN

A Site Specific Safety Plan for each Hazardous Waste Site will be prepared. Government activities and firms responsible for the development of the Site Specific Safety Plan shall utilize the services of a qualified industrial hygienist (See ER 385-1-192.5.h), toxicologist, chemist, safety engineer/safety professional and any other professional discipline determined necessary during the development of all occupational safety and health criteria. Such individuals shall, at minimum, have three years experience in the chemical industry and/or chemical waste disposal. The following elements will be comprehensively addressed in each site plan.

1. Background. Provide a complete list in tabular format of all chemicals identified at the site with a thorough discussion of the safety and health implications of each, to include acute, chronic and delayed effects, mutagenicity, carcinogenicity, teratogenicity, sensitization reactions and any other health effects that could result. With each health effect listed, indicate the most likely route of exposure, inhalation, ingestion of skin contact or sensitization. Also address the specific physical and chemical properties of the chemicl substance identified. Characteristics such as radioactivity, flammability, explosibility, water and chemical reactivity, density, vapor pressure, etc. shall be recorded. A fact sheet shall be prepared in layman's language outlining possible adverse consequences of working on the site if proper safety procedures are not observed or if protective equipment fails or is worn improperly. A list is enclosed at the end of the appendix that comprises some suggested references that may be used in preparing the safety and health implication for identified chemicals. This list should not be construed to be all inclusive. There are many acceptable reference sources that provide valid, up-to-date information.

2. Site Location.

a. Vicinity Map (should show and identify nearest sensitive receptors such as residences, rivers).

b. Perimeter identifiction (indicate specifically the type of barrier(s), if any, on the perimeter of the site that separates it from the surrounding properties).

c. Existing geographic features, public utilities and/or private improvements.

d. Security Measures.

3. Site Layout. Every work site will have three basic areas- Exclusion, Contamination Reduction and Support. The Exclusion Area will be divided into up to four zones as determined by the degree of hazard present. When established standards or adequate site information are not available, a minimum of Zone B (See III.A.1.b.) will be established. Equipment for personal protection shall be referenced to the EPA levels of protection as described in the Interim Standard Operating Safety Guides (USEPA, September/1982 draft). The usage guidance placed in the Site Specific Safety Plan shall not be changed unless the Contractor air monitoring or other data to support a change in protection level is presented and approved by the Contracting Officer (CO). No person shall be allowed entry into the Exclusion and Contamination Reduction Areas unless authorized by the Government employee in charge and he/she complies with the personal protective and medical surveillance provisions of the Site Specific Safety Plan. A visitors platform is normally erected outside the Exclusion and Contamination Reduction area where official visitors not authorized or properly protected to enter, can view the project. The requirement for erection of such a structure shall be evaluated on a site by site basis. All items listed in Paragraph a. & b. below will be displayed on a site map.

a. Determination of areas

(1) Exclusion Area. Criteria for determining zones are listed below. Protective equipment may be specified for workers in the Exclusion Area on the basis of location or operation or both.

(a) Zone A. Maximum respiratory, skin, and eye protection is required.

1 Where atmospheres have the potential to be immediately dangerous to life and health (IDLH).

2 Atmospheric sampling indicates concentrations capable of being absorbed through the skin or eyes in toxic quantities or atmospheric concentrations of corrosives exist which could destroy skin.

3 Skin contact with extremely hazardous substances (known or suspected to be on site) is possible.

(b) Zone B. Maximum respiratory protection required and low probability of skin contact.

1 Where atmospheric concentration of contaminant is known and the concentration of contaminants is greater than the protection factor for air purifying respirators or atmosphere is oxygen deficient (less than 19.5% oxygen.

2 Contaminants absorbed through or toxic to skin are not present.

3 Safeguards preclude splashing of contaminant on the skin or in eyes of individuals.

(c) Zone C.

1 Air contaminant levels are being monitored and do not exceed the protection factors of air purifying respirators.

2 The contaminants have good warning properties.

3 The contaminant is not known to be absorbed through or be toxic to skin.

4 A reliable history of prior entry exists without acute or chronic effects on personnel.

(d) Zone D. Can only be included inside the Exclusion Area if there is no Zone A or requirement for Level A protective equipment, and if there is no requirement for Zone B or Level B protection other than a restricted area with an oxygen deficient atmosphere.

1 No known airborne hazards present and there is little or no potential for release of an airborne contaminant.

2 Work function precludes splashing.

(2) Contamination Reduction Area. Provides area to prevent the transfer of contaminants from the Exclusion Area to the Support Area, including personnel showers, change rooms, equipment decontamination.

(3) Support Area. The outer area, considered to be clear of contamination, including vehicle parking, administrative areas, etc.

b. Access to existing roadways and any associated problems with access and egress to the site.

4. Personal Protection

a. Personal protective equipment for each zone and area will be determined. Protective gloves, boots and suits shall be of material resistant to the chemicals present on the specific site. All respiratory protective equipment must be approved by the National Institute for Occupational Safety and Health (NIOSH)/Mine Safety and Health Administration (MSHA).

(1) Level A Protection. Required in Zone A.

(a) Positive-pressure demand type, air-supplied breathing apparatus.

(b) Fully encapsulating suit (boots and gloves attached).

(c) Both outer and inner gloves should be chemical-resistant. Inner gloves should be tight fitting; outer gloves may be tight fitting, depending on encapsulating suit construction worn over suit gloves. Latex or vinyl gloves may be worn inside work type gloves.

(d) Steel toe and shank boots (chemical-protective, depending on encapsulating suit boot construction; worn over suit boot).

(e) Hard hat (under suit).

(f) Options as required:

1 Coveralls (under encapsulating suit)

2 Underwear (cotton, long-john type)

3 Disposable protective suit, gloves and boots, worn under or over fully encapsulating suit

(2) Level B Protection. Required in Zone B

(a) Positive pressure demand, air-supplied breathing apparatus

(b) Chemical-resistant clothing, long sleeves, one or two pieces, requirement for hood to be determined

(c) Outer and inner gloves (inner gloves tight-fitting and chemical resistant; outer gloves chemical resistant)

(d) Steel toe and shank boots (chemical-protective)

(e) Hard hat

(f) Options as required

1 Coveralls

2 Disposable outer boots (chemical protective, heavy rubber disposables)

(3) Level C Protection. Required in Zone C

(a) Full-face piece, air-purifying, canister-equipped respirator

(b) Chemical-resistant clothing, long sleeves, one or two pieces, requirement for hood to be determined

(c) Gloves

(d) Steel toe and shank boots/shoes (safety or chemical-protective)

(e) Hard hat (face shield optional)

(f) Options as required

1 Coveralls (fire resistant)

2 Inner chemical-resistant gloves

3 Disposable outer boots (chemical-protective, heavy rubber vinyl disposables as appropriate.

4 Escape mask (specify type and rationale for choice)

(4) Level D Protection. Required in Zone D and in the Contamination Reduction Area

(a) Coveralls (fire resistant)

(b) Steel toe and shank boots/shoes (safety or chemical-protective)

(c) Hard hat (face shield optional)

(d) Options as required

1 Gloves

2 Disposable outer boots (chemical-protective, heavy rubber disposables)

3 Safety glasses or chemical splash goggles

4 Escape mask or respirator (specify type and rationale for choice)

b. Medical requirements and special tests for chemical exposure will be determined. All medically related evaluations shall be conducted by or under the direct supervision of a licensed physician who is Board Certified or Board Eligible in Occupational or Aerospace Medicine by the American Board of Preventive Medicine, Incorporated with at least three years experience in occupational medicine.

(1) Preemployment medical examinations

(2) Periodic medical examinations

(3) Pretermination medical examinations

c. Work-rest schedules for each level of protective equipment considering the expected climate

d. Heat or cold stress monitoring requirements and procedures

e. Dependent upon the chemicals present or suspected to be present at the site, the results of the preemployment and/or the periodic medical examinations, exclusion of applicants and workers (male or female) may be required. Exclusion will be determined on a case by case basis by the Board Certified physician described in IV.B. above.

f. Medical records shall be retained as required by applicable Federal, State and local regulations.

5. Contaminant Monitoring. Identify in tabular format the specific sampling and analytical methods, the frequency and location(s) of sampling the frequency and procedures for calibration of instrumentation and the contaminant(s) being sampled. When applicable, NIOSH approved sampling and analytical methods cannot be used, detail the reason(s) why and specifically describe the sampling and analytical method to be used and their source. In the tabular format, fully describe in narrative the above contaminant monitoring and analytical requirements for A. and B. below. For further information, thoroughly review and incorporate the guidance specified in the Corps of Engineers document, "Interim Standard Air Monitoring Guide for Hazardous Waste Sites", June 1984 and "Air Surveillance", a draft Part 8 of the EPA's Interim Standard Operating Safety Guide.

a. Personnel Monitoring (breathing zone samples)

(1) High hazard operations

(2) Hazardous site areas or zones

b. Areas Monitoring (Environmental)

(1) Atmospheric concentration of contaminants in work zone and background samples.

(2) Oxygen content (for confined spaces only)

(3) Explosive atmospheres

(4) Radioactivity

6. Decontamination. Provide complete description of methods, materials and equipment, utilities required, and locations to decontaminate personal equipment and "scrap".

a. Personnel decontamination procedures

(1) Protective clothing

(2) Body

b. Personnel decontamination facility

(1) Use (entrance, egress, showers and wash facilities, clean side and dirty side, etc.)

(2) Housekeeping and maintenance

c. Equipment decontamination procedures

(1) Materials and supplies

(2) Motorized equipment and vehicles

(3) Equipment decontamination facility

(4) Method of assuring equipment is properly decontaminated

d. "Scrap" decontamination procedures

(1) Method and location of decontamination

(2) Method of assuring "Scrap" properly decontaminated prior to disposal, release, etc.

7. Prevention of Contamination Spread. Identification of specific methods, frequency and location for monitoring. EPA approved methods should be used where applicable.

a. Waste Water

b. Soil

c. Groundwater

d. Meteorological Monitoring

8. Communications

a. Communications on site compatible with protective equipment used

b. Communications with on call emergency equipment

9. Emergency Procedures. Establishment of protocols and equipment necessary for emergency response procedures for occurrence of A through E below each of the site areas and zones.

a. Chemical Exposure

b. Personal Injury

c. Potential or actual fire or explosion (including criteria for determining a hazard exists)

d. Environmental accident

(1) Spill control procedures

(2) Information resources for emergency response

(3) Reporting requirements

e. Radiation

(1) Criteria for determining hazard

(2) Regulatory agency requirements

f. Identification of local and state emergency response personnel required on standby to support activities on site (fire department, police, hospital emergency room, others).

(1) Level of expertise available

(2) Emergency and personal protective equipment available

(3) Training required for emergency personnel supporting site operations

g. Definition of interfaces between the contractor, Corps representative, and EPA On-Scene Coordinator for implementation of the EPA Community Protection Plan. The Community Protection Plan shall be a part of the Site Specific Safety Plan in order to insure adequate contingency planning has been done by all Federal, State and local agencies involved.

10. Training. All personnel required to perform on-site tasks shall receive formal training and prior on-the-job training for those tasks they are assigned to perform. All unfamiliar operations will be rehearsed prior to performing the actual procedure. Occupational Safety and Health Training shall be conducted by a qualified industrial hygienist and safety professional. Additionally, an on-site orientation session shall be developed covering the following subject as a minimum.

a. Health effects and hazards of the chemicals identified or suspected to be on site. The basis for this discussion will be the background information and fact sheet prepared under Section I.

b. Personal Protection

(1) Use, care, maintenance and fitting of personal protective equipment including respiratory protective equipment. Training personnel in the use, care, maintenance, and fitting of respiratory protective equipment shall conform to ANSI Z88.2(1980) and 29 CFR 1901.134. Personnel who are required to wear respiratory protective equipment shall be clean shaven. Clean shaven shall mean that facial hair does not interfere with the sealing surface or function of the respirator. The method and procedures to be used for fit testing shall be specified.

(2) Necessity for personal protection, effectiveness and limitations of equipment.

c. Decontamination Procedures (specify procedures, materials, equipment and facilities to be used)

d. Accepted Practices

(1) Accepted and unacceptable practices within specific areas and zones of the site.

(2) Accepted and unaccepted procedures for entry and exit of specified areas and zones

(3) Accepted and unaccepted practices within the lunch/break and personal decontamination facility (clean room, shower, dirty room , etc.;)

e. Emergency procedures as identified in Section IX

f. Medical Requirements

APPENDIX L

MANAGEMENT CONCEPT FOR THE

USAF INSTALLATION RESTORATION PROGRAM, PHASE II

MANAGEMENT CONCEPT FOR THE
USAF INSTALLATION RESTORATION PROGRAM, PHASE II

GENERAL: The USAF Installation Restoration Program (IRP) implements Defense Environmental Quality Program Policy Memorandum (DEQPPM) 81-5, "DoD Installation Restoration Program." It is a multiphased effort that will identify and evaluate past hazardous material disposal and spill sites on Air Force installations, and control the migration of hazardous environmental contamination resulting from such sites. Phase II of the IRP is a multistaged effort managed by the Air Force Medical Service. Potential contamination sites identified during Phase I Records Search activities are assessed during Phase II stages. The magnitude of contamination is quantified by analysis of appropriate air, water, sediment and soil samples. If necessary, life forms are also evaluated to determine whether degradation of relevant ecosystems has occurred. In addition, suggestions for future monitoring efforts, if any, are included. Each stage of Phase II culminates in a final report that will state the actual and/or estimated contamination. Based on the final report(s) of the Phase II, Air Force Engineering and Services will initiate action to develop and implement projects and procedures to mitigate the hazard. The interdisciplinary, multiphased approach to the IRP requires a maximum of coordination between the engineering and medical staff involved.

Prior to initiation of Phase II, MAJCOM (SG), in coordination with DE, prioritizes its bases which require Phase II investigation. The prioritized list is then sent to the USAF Occupational and Environmental Health Laboratory (USAF OEHL).

PHASE I TO PHASE II TRANSFER: The Phase II effort will not be initiated until Phase I work is completed. Phase I will be considered complete when the USAF OEHL receives the Phase II initiation request package from MAJCOM (SG). The package shall include consolidated comments, including regulatory agencies' comments as specified in Step 3 of the attached flow diagram (Attachment 1).

PHASE II CONCEPT:

a. Presurvey: Prior to the initiation of Phase II work on a given installation, a presurvey of the sites (see Attachment 2 for format) recommended in the Phase I report, and any other additional sites, will be conducted by the contractor, the USAF OEHL, MAJCOM and base personnel. The purpose of this presurvey is to define the work plan, including quality control measures, to determine the approach to be utilized in accomplishing the requirement of the first stage (Stage 1) of Phase II of the IRP, and to estimate costs associated with performing the detailed surveys recommended in the presurvey task. Identified contamination sites are visited and costs are estimated to install required monitoring wells, collect and analyze samples to verify the presence and, if possible, the magnitude, extent and rate of movement of contaminants, and to prepare a final report. These requirements will be contained in a presurvey proposal and forwarded to the USAF OEHL within the time specified in the presurvey task.

b. State 1: Stage 1 of Phase II involves actual sampling and analysis to verify the presence (qualitative) and, if possible, the magnitude, extent and rate of movement of contamination (quantitative). The specific sampling protocol is tailored to each site situation based on the results of the Phase I Records Search, presurvey proposal, MAJCOM priorities, USAF OEHL inputs, and funding availability. Every attempt is made to perform the sampling in the most cost-effective manner. Wherever applicable, existing production wells should be sampled first before new monitoring wells are installed. Stage 1 final report (see Attachment 3 for format) shall verify the presence or absence of contamination and, if possible, include the magnitude, extent, direction and rates of migration of the contamination. These contamination data may be field generated and/or estimated. The Stage 1 report will list all sites by category. Category I consists of sites where no further action, including remedial action, is required. Data for these sites are considered sufficient to rule out unacceptable health or environmental risks. Category II sites are those requiring additional monitoring or work to quantify or further assess the extent of current or future contamination. Category III sites are sites where remedial actions are

recommended (ready for IRP Phase IV). Category III sites will be turned over to Air Force Engineering and Services for Remedial Action Plan (RAP) development or other appropriate corrective actions.

c. Stage 2: If Stage 1 of Phase II work does not generate data to adequately estimate the concentration, extent and rate of migration of the contamination, and assess hazards related to the contamination of all investigated sites, the report shall include contractor recommendations for future monitoring wells/samples, etc., for those sites in need of additional investigations. The contractor's recommendations will include the protocols (experimental design, including quality control) used to locate the wells and conduct the required sampling, along with the cost. Based on these recommendations, additional stages will be initiated by the USAF OEHL upon written request from MAJCOM. If required, Stage 2 involves additional quantification to define the magnitude, extent, direction and rates of migration of the contamination from the confirmed sites identified in Stage 1. When performed by a contractor other than the Stage 1 contractor, this phase may be preceded by a presurvey task. If conducted, the presurvey proposal will contain information similar to that presented in paragraph a, above. The Stage 2 final report will list all sites by category as depicted in the Stage 1 Report (paragraph b, above).

d. Stage 3 and subsequent stages: If Stage 2 of Phase II work does not generate sufficient data to adequately estimate the magnitude, extent, rate of migration of the contamination, and assess hazards related to the contamination of all investigated sites, Stage 3 will be initiated for those sites in need of additional investigation. This staged approach may proceed through multiple site iterations until sufficient data have been gathered to adequately confirm or deny the contaminations and determine their magnitude, extent and rate of movement at each site.

e. End of Phase II Stages: The multiple site iteration of Phase II staged approach will proceed on and off installation until one of the following end-points is achieved at each investigated site. Sites may be grouped or addressed individually to allow decisions to be made at some

sites without waiting for the entire installation to be completed. Priority will be given to those sites listed by the EPA on the National Priority List (NPL) or any candidates for such listing.

(1) No Further Action - This end-point is commonly recommended when contamination identified in Phase I is not confirmed, or is found to be insignificant during initial stages of Phase II.

(2) Conduct Long-Term Monitoring - This decision is appropriate when contamination is confirmed but other factors (e.g., migration, toxicity, receptor population, risk, etc.) do not justify an immediate transition to remedial actions. This decision is subject to revision if subsequent sampling and data analysis show an adverse change in site status. Requirements in support of this option are at Attachment 5.

(3) Proceed to Phase IV - This is appropriate when remedial actions are indicated by the Phase II findings. Most remedial action decision-making, documentation and implementation take place after Phase II completion and are Engineering and Services functions. The Phase II report is responsible for triggering events leading to eventual cleanup, containment or other remedial action alternatives including corresponding rationale, that, as a minimum, should be considered in selecting the remedial action for a given site. The list will encompass alternatives that could potentially attain applicable environmental standards. For contaminants that do not have standards, the Phase II contractor may use EPA recommended safe levels for non-carcinogens (Health Advisory or Suggested-No-Adverse-Response Levels) and target levels for carcinogens ($1x10^{-6}$ cancer risk level). Comprehensive cost or technical analyses of alternatives need not be included. However, this does not preclude the Phase II reports from presenting specific, detailed recommendations in those situations where field survey data indicate immediate corrective action is necessary.

f. Post-Phase II Requirements: If additional environmental sampling and analyses are required after Phase II completion (e.g., to better

evaluate feasible alternatives in the early stages of Phase IV), they will be performed by the Medical Service upon request.

RESPONSIBILITIES: The Phase II program will be managed at the MAJCOM level. Technical project direction will be the responsibility of the USAF OEHL, utilizing its in-house staff and contractor resources. After consulting MAJCOM (SG/DE) and the base, the USAF OEHL may appoint the installation bioenvironmental engineer (BEE) as the primary field monitor and the total project co-monitor of the contractor's work.

SEQUENTIAL PROCESS DESCRIPTION: Phase II actions will proceed as follows (see attached flow diagram):

a. Contractor Phase I final reports are forwarded simultaneously to AFESC and MAJCOM (DE) which makes distribution to HQ USAF (LEEV/SGPA), Defense Technical Information Center (DTIC), USAF OEHL and the base. State and regional Environmental Protection Agency (EPA) offices and other regulatory agencies are provided copies of the report and asked for comments. When the comments are received and reviewed by MAJCOM/DE Phase I is considered to be complete. MAJCOM (SG) then forwards consolidated base SG/DE, state, EPA, and other regulatory agencies comments on contractor recommendations to the USAF OEHL along with a list of prioritized sites. The MAJCOM (SG) then requests Phase II initiation by the USAF OEHL which triggers Phase II activities by initiating the presurvey process.

b. The USAF OEHL initiates the presurvey and coordinates a presurvey date and place with the contractor and appropriate MAJCOM and base function. The MAJCOM, directly or through base SG/DE, invites applicable regulatory agencies to participate in the presurvey activities. After the field presurvey, the contractor files the presurvey proposal which defines and costs the work plans to conduct Stage 1 of Phase II work, including the cost of proposed monitoring actions. Stage 1 cost estimates will be provided in a prioritized format utilizing the priority list of sites within each base (paragraph a, above). Actual visits to all identified sites will be conducted during the performance of the presurvey.

c. The USAF OEHL will utilize the contractor presurvey proposal to draft Stage 1 of the Phase II task description. If Stage 1 cannot be funded completely due to funding constraints, the USAF OEHL will draft a second task description, utilizing the prioritized cost format (paragraph B, above), based on site priority. The second task description will tailor the Stage 1 effort to fit the available funds. Copies of task descriptions (staged and/or staged and tailored) will be forwarded to MAJCOM for further distribution.

d. MAJCOM (SG/DE) and bases will evaluate the USAF OEHL task description(s) for Stage 1 of Phase II. The task description(s) will then be forwarded to applicable state, EPA, and other regulatory agencies (suggested letters of transmittal are included in Attachment 4) for comments. Information copies of the task description(s) will also be sent by MAJCOM (SG) to HQ USAF (SGPA), USAF (LEEV), and AFESC. MAJCOM (SG/DE) consolidated comments from all agencies and mails them to USAF OEHL.

e. The USAF OEHL, after incorporating MAJCOM (SG/DE) consolidated comments, initiates Stage 1 of the Phase II study.

f. MAJCOM (SG/DE) coordinates on all major Phase II implementation decisions and interim or draft reports. Draft and final reports are forwarded to MAJCOM (SG) for further distribution.

g. If prioritization between MAJCOM bases is required, the USAF OEHL will obtain a prioritized list from HQ USAF/SGPA.

CONCURRENT PROCESS DESCRIPTION: Phase II actions described above are conducted in chronological sequence, thus providing a maximum rate of information flow and most cost-effective operations. The above sequential process will consume an average of six (6) months for steps b through e. In certain emergency situations, (e.g., funding constraints and/or program acceleration), this process may be shortened by double-tracking. In the double-tracking method, the USAF OEHL will directly finalize (no draft) the applicable stage of Phase II task descriptions and concurrently forward it to

MAJCOM and initiate the contractual process. In such situations, unfortunately, incorporating any comments into the task description will trigger a contract modification(s) and reduce cost-effectiveness. To avoid misunderstandings with regulatory agencies, double-tracking should not be used unless appropriate regulators have been verbally notified and briefed on the proposed scope of work. This method must not be used at NPL sites without the concurrence of the appropriate EPA region.

STAGE 2 AND SUBSEQUENT STAGES:

a. Despite the extensive preparation preceding Stage 1 work, writing a specific description to cover every possible contingency for the entire effort of Phase II tasks has proven to be a difficult undertaking and is not cost-effective. This is because data collected from each discrete stage of Phase II work are needed to describe and propose the next stage of work. Thus, the initial technical description and associated cost of the work will most likely be modified at several points during the performance period. To increase the efficiency of this process and acquire direct inputs on the future direction of each stage from Air Force personnel, contractors, and applicable regulatory agencies, the technical task description of Phase II shall be constructed, when possible, to initially verify or deny the presence of contaminants in each site and to quantify those contaminants to the maximum content possible. If possible, the contractor's estimates of the magnitude, extent, direction, and movement rates of contaminants should be given in the Stage 1 final report. This may be done through mathematical models, statistical analyses, geological and hydrogeological maps, aquifer testing, engineering estimates, or other mechanisms.

b. If the extent, direction, and movement rates of contaminants cannot be determined or estimated from the data collected throughout Stage 1, the USAF OEHL may recommend Stage 2 for certain sites. MAJCOM (SG/DE) will approve and prioritize recommended Stage 2's. Based on the MAJCOM priority, fund availability and base(s)/site(s) readiness, the USAF OEHL will initiate Stage 2 work utilizing the same procedures detailed for Stage 1.

PHASE II CONTRACT MONITORING PROCESS: After consulting MAJCOM (SG/DE) and the base, the USAF OEHL may assign the base BEE as the primary field monitor and the total project co-monitor of the contractor's work. This means that MAJCOM (SG/DE) and the base shall have, through the USAF OEHL, direct input on the effort direction and contract monitoring.

PHASE II DRAFT FINAL REPORTS REVIEW:

a. If the consolidated comments on the draft final report which was submitted to MAJCOM (SG) for approval (steps 22 or 25 of the flow diagram) exhibit significant differences between commentors, the USAF OEHL or the MAJCOM may call for a meeting of Air Force commentors to resolve the differences. Since such a meeting can result in program delay, every attempt should be made to eliminate the need for such meetings.

b. After receiving and reviewing the consolidated comments, the contractor may, in a few cases, disagree with some of the comments. In such cases, and at the request of the contractor, the USAF OEHL will call for a meeting with the contractor and Air Force representatives to review the consolidated comments.

5 Attachments:

1. IRP Phase II Flow Diagram
2. Presurvey for Phase II IRP
3. Report Format
4. Sample Transmittal Letters to Regulatory Agencies
5. Long-Term IRP Monitoring Requirements

ATTACHMENT 1

INSTALLATION RESTORATION PROGRAM PHASE II
FLOW DIAGRAM

Step

1 Receipt and Review of Phase I Records Search by Base, MAJCOM, AFESC, USAF OEHL, AFRCE, AIR STAFF and Regulatory Agencies

2 Prioritize sites within base by MAJCOM and Base

3 MAJCOM (DE) consolidates comments, including regulatory agencies' comments, concerning Phase I report and other IRP requirements. MAJCOM (SG) forwards package to USAF OEHL and requests the initiation of Phase II.

4 The USAF OEHL initiates presurvey process of Phase II Stage 1 in coordination with MAJCOM.

5 Contractor, along with the USAF OEHL, MAJCOM and/or base and applicable regulatory agencies, performs presurvey. Contractor prepares presurvey proposals utilizing prioritized format for the prioritized sites in Steps 2 and 3 herein.

6 The USAF OEHL reviews presurvey proposal and then provides Stage 1, Phase II task description (staged and/or staged and tailored, depending on funding constraints) to MAJCOM (SG).

7 MAJCOM (SG) evaluates task description(s) then forwards task description(s) to appropriate regulatory agencies and MAJCOM counterparts. MAJCOM (SG) may use AFRCEs to distribute to regulatory agencies. Additionally, MAJCOM (SG) will send info copies of the task description(s) to USAF (SG), USAF (LEEV), and AFESC.

8 MAJCOM (SG), in coordination with DE, prepares prioritized list for Phase II, Stage 1 program.

9 If regulatory agencies do not respond within the time constraint to initiate the project and/or obligate the funds, MAJCOM may press on with the Phase II process. Accepted comments received after fund commitment will be incorporated into the subsequent stage.

10 The USAF OEHL incorporates consolidated comments and then prepares the final task description. Consolidated comments received after contract obligation will be incorporated into the next stage of Phase II work.

11 The USAF OEHL initiates Stage 1 (staged and/or staged and tailored), Phase II surveys. A copy of the final task description is sent to MAJCOM and base BEE. They distribute to DE and other appropriate recipients.

12 MAJCOM (SG) will forward directly (or via AFRCE) a copy of the final task description to applicable regulatory agencies with a transmittal letter explaining deviations (if any) from their comments provided in Steps 9 and 10, above. Appropriate AFRCE, MAJCOM/DE and base personnel will receive information copies of this correspondence.

13 In certain emergency situations, (funding constrains and/or program acceleration), the USAF OEHL may initiate Steps 7 and 11, concurrently. The remaining applicable and approved steps will be incorporated as soon as funds become available and/or the contractual process permits.

14 Contractor performs required work for the survey. If staged and tailored work is being performed, modification to convert to staged approach must be accomplished as soon as funding becomes available and the contractual process permits.

15 Contractor prepares draft final report, for peer review, following the report format supplied by the USAF OEHL.

16 Contractor distributes draft final report for peer review according to distribution list provided by the USAF OEHL. [The list will include the following organizations: MAJCOM (SG, DE, PA, JA), base SG/DE and (AFESC/DEV).]

17 MAJCOM (SG/DE) coordinates comments and consolidates them with its own, then sends consolidated comments to the USAF OEHL within twenty-five (25) workdays after receiving draft final report from contractor.

18 Within thirty-five (35) workdays after receiving draft report, the USAF OEHL consolidates comments with its own into one copy of the report (or separate statement) and submits to MAJCOM (SG) for approval. Any additional changes will be coordinated with the USAF OEHL before forwarding to contractor.

19 Approved comments are mailed to contractor within forty-five (45) days after receipt of draft report.

20 Contractor incorporates comments in a newly prepared second draft final report following the same format in Step 15 above, and then distributes copies of the report according to a new distribution list provided by the USAF OEHL. [The list will have been previously coordinated with MAJCOM (SG/DE) and AFESC.]

21 MAJCOM/SG, in coordination with DE, will forward directly (or via AFRCE) copies of report to applicable federal, state and local regulatory agencies for comments utilizing one of the suggested transmittal letters in Attachment 4. Information copies are provided to HQUSAF SGPA/LEEV. Appropriate AFRCE, MAJCOM/DE and base personnel should receive information copies of the transmittal letters to regulatory agencies.

22 MAJCOM (SG/DE) coordinates regulatory agencies' comments and consolidates them with its own comments, then sends consolidated comments to the USAF OEHL within forty (40) days after receiving second draft final report.

23 Within fifty (50) days after receiving second draft final report, the USAF OEHL consolidates comments from MAJCOM and regulatory agencies into one copy of the report (or separate statement) and forwards to contractor.

24 Subsequent draft final report required, go to Step 20. Subsequent draft final report NOT required, go to Step 25.

25 Contractor finalizes the report according to the attached format provided by the USAF OEHL and distributes copies according to a distribution list (also provided by the USAF OEHL).

26 The USAF OEHL, in coordination with MAJCOM (SG), accepts completed final report and then closes the project. MAJCOM (SG) will arrange release of the final report to Air Force and regulatory agencies. USAF/SGPA distributes copies to the Air Staff, secretariat, and appropriate congressional offices (via SAF/LL).

27 If additional stages are not required, MAJCOM (SG) completes Phase II review for future phase consideration and transmits final report to MAJCOM (DE).

28 If Stage 2, Phase II is required, it will be initiated at any time after Step 23 above and will follow the same route starting with Step 5 or Step 10, depending on whether a presurvey is needed.

Attachment 2

PRESURVEY FOR PHASE II INSTALLATION RESTORATION PROGRAM (IRP)
_____ AFB, ___

I. DESCRIPTION OF TASKS:

The effort required by this task is an integral part of the survey task to be issued subsequently.

The purpose of this task is to define the work plan, and to determine the approach to be used in accomplishing the requirements of Phase II of the Installation Restoration Program (IRP) for _____ AFB, ____. The following steps shall be accomplished.

A. As background information, review the final Phase I IRP Report (mailed under separate cover) to obtain a complete understanding of the recommendations made by the authors of the Phase I Report.

B. Review all sites as prioritized in Attachment 1.

C. Visit _____ AFB and discuss the recommendations of the Phase I IRP report, the requirements of Attachment 1, and any additional requirements identified at the time of the visit to insure a complete understanding of the necessary work.

D. During the same visit in C above, tour all locations where Phase II IRP monitoring efforts have been identified and prioritized in Attachment 1 to this order. Also, visit additional sites identified during the visit.

E. During the same visit in C above, collect and properly preserve one sample from each of the base production wells. These samples shall be analyzed on-site for pH, temperature and specific conductance. Water sample maximum holding time and preservation shall strictly comply with the following references: Standard Methods for the Examination of Water and Wastewater, 15th Ed., pp 35-42 (1980); ASTM, Section 11, Water and Environmental Technology; Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, EPA-600/4-82-057; and Methods for Chemical Analysis of Waters and Wastes, EPA Manual 600/4-79-020, pp. xiii to xix (1983). Additional analyses of these samples are specified in Attachment 3. All chemical analyses shall meet the required limits of detection for the applicable EPA method identified in Attachment 3. If the wells cannot be readily sampled due to improper well development, well characteristics and/or other reasons, the contractor shall indicate the reasons in the presurvey report specified in Item VI below.

F. The base civil engineering office (BCE) will turn over the following information to the contractor at the time of the presurvey meeting:

1. Well logs and other pertinent well records and information

available to determine that samples collected are representative.

2. Results from any water analyses conducted on base monitoring/production wells during the previous five years.

3. Results of any soil boring analyses conducted on hazardous waste sites.

4. Existing engineering plans, drawings, diagrams, etc., for sites under investigation.

G. Prepare a presurvey report within the period specified in Item VI below. The report shall include the following:

1. Results of chemical analyses from the ___ base production wells.

2. The contractor's specific Quality Assurance/Quality Control (QA/QC) protocols and procedures which shall be utilized in the subsequent survey sampling and analysis.

3. Procedures to split all the proposed groundwater samples. One sample shall be analyzed by the contractor. The other sample shall be turned over to the base point of contact (POC) along with packaging materials sufficient to package 10% of these samples for overnight shipment. Within 24 hours of sample collection, the base POC will return these samples to the contractor for subsequent overnight delivery to:

USAF OEHL/SA
Bldg 140
Brooks AFB TX 78235-5501

The sample sent to the USAF OEHL/SA shall be accompanied by the following information:

(a) Purpose of sample (analyte)

(b) Installation name (base)

(c) Sample number (on containers)

(d) Source/location of sample

(e) Contract Task Number and Title of Project

(f) Method of collection (bailer, suction pump, air-lift pump, etc.)

(g) Volumes removed before sample taken

(h) Special conditions (use of surrogate standard;

special nonstandard preservatives, etc.)

(i) Preservative used

This information shall be forwarded with each sample by properly completing an AF Form 2752 (mailed under separate cover). In addition, copies of field logs documenting sample collection must accompany the samples.

4. The contractor's specific collection technique, analytical method and detection limit (Standard Methods, EPA, ASTM, etc.) to be used for each analyte recommended for sampling and analysis in the upcoming Phase II, Stage I work effort.

5. Technical Field Operations Plan: The contractor shall develop as an appendix to the Presurvey Report a Technical Field Operations Plan based upon the technical requirements for the proposed work effort. This plan shall be explicit with regards to field procedures. Include, but do not limit the plan to, field decontamination operations, sampling protocol, QA/QC field and laboratory procedures, field schedule, etc. A guideline for the plan is provided under a separate cover.

6. A discrete cost estimate using prioritized format (i.e., cost of conducting the required work on: a. first site only; b. first and second sites only; c. first, second and third sites only; etc., until all required work is discretely costed) for the implementation of each specific site prioritized by the Air Force for the proposed Phase II IRP work. All the prioritized sites are listed in Attachment 1 to this order.

7. The contractor's cost estimates for the collection, during the upcoming task, of the necessary complement of data (both printed and field generated) to accomplish the following:

a. Determine the presence or absence of contamination or contaminated substances within the area of investigation (identified in Attachment 1 herein).

b. If contamination exists, determine the potential for migration of these contaminants in the various environmental media.

c. If a potential for migration exists, determine the rate, extent and direction(s) of such migration within the full migration zone both within and beyond the base boundary.

d. Assess the potential environmental or health risks associated with these contaminants in the local environmental setting. This assessment will be based on applicable local, state and/or federal standards, only.

8. The cost of 6a, b, c and d shall be cumulative (i.e., the

cost of accomplishing 6a only; 6a and b only; and 6a, b, and c and so forth.

9. Insure that recommended well installation and development methods, well materials, and well purging and sampling techniques are approved by the State in which the work is to be accomplished.

H. In the Phase II report, the recommendation section shall address each site and list them by categories. Category I shall consist of sites where no further action, including remedial action, is required. Data for these sites are considered sufficient to rule out unacceptable public health or environmental hazards. Category II sites are those requiring additional monitoring or work to quantify or further assess the extent of current or future contamination. Category III sites are sites that will probably require remedial actions or long term monitoring. In each case, the contractor shall summarize or present the results of field data, environmental or regulatory criteria, or other pertinent information supporting these conclusions. The recommendations for Category II sites shall include a list of possible remedial actions.

II. SITE LOCATION AND DATES:

_____ AFB, _____
Building and time to be established

III. BASE SUPPORT: _____

IV. GOVERNMENT FURNISHED PROPERTY: _____

V. GOVERNMENT POINTS OF CONTACT:

1. OEHL Monitor

2. Base Monitor

3. MAJCOM Monitor

VI. DELIVERABLE REQUIREMENTS:

In addition to sequence numbers 1, 5 and 10 which are listed in Attachment 1 to the contract, and are applicable to all contracts, the sequence number listed below is applicable. Also shown are data applicable to this order:

Sequence No.

ATTACHMENT 1

PRIORITIZED SITE LISTING

ATTACHMENT 2

THIS ATTACHMENT IS THE BASE MAP SHOWING ALL OPERATING PRODUCTION WELLS

ATTACHMENT 3

CRITERIA FOR ANALYSIS OF BASE MONITORING/PRODUCTION WELL SAMPLES WITH REQUIRED DETECTION LIMITS

Analyte	Analytical Method	Detection Limit
Oil and Grease (O&G), IR Method	EPA Method 413.2 *	100 ug/L
Total Organic Carbon (TOC)	EPA Method 415.1 *	1000 ug/l ***
Total Organic Halogens (TOX)	EPA Method 9020 **	5 ug/l ***
pH	EPA Method 150.1 *	
Specific Conductance	EPA Method 120.1 *	1 umho/cm^2

References:

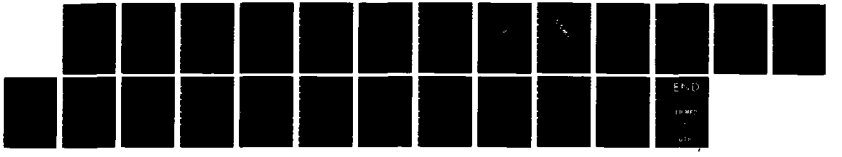
* Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, (USEPA, Mar 1979).

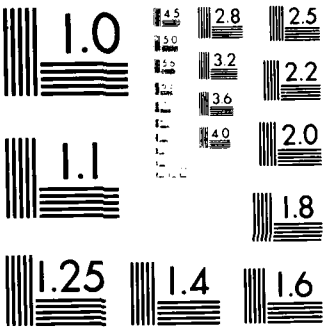
** Test for Evaluation of Solid Waste Management, Physical-Chemical Method, SW-86, 2nd Ed. (USEPA, 1983).

*** Detection Levels for TOC and TOX must be three times the noise level of the instrument; laboratory distilled water must show no response. If so, corrections of positive results must be made.

AD-A163 081 AIR FORCE INSTALLATION RESTORATION PROGRAM MANAGEMENT GUIDANCE(U) HAZARDOUS MATERIALS TECHNICAL CENTER ROCKVILLE MD B LINDENBERG ET AL. JUL 85 3/3

UNCLASSIFIED DLA900-82-C-4426 F/G 13/2 NL





Attachment 3

REPORT FORMAT FOR IRP PHASE II EFFORT

Report Cover

Title Page

Disclaimer

Report Documentation Page (DD Form 1473) including Abstract and a Blank

Preface

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Summary

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II. ENVIRONMENTAL SETTING

III. FIELD PROGRAM

IV. DISCUSSION OF RESULTS AND SIGNIFICANCE OF FINDINGS

V. ALTERNATIVE MEASURES

VI. RECOMMENDATIONS

APPENDICES (when applicable, not necessarily in the following order)

A. - Definitions, Nomenclature and Units of Measurement

B. - A Copy of the Latest Task Description/Statement of Work

C. - Well Numbering System

D. - U.S. Geological Survey Well Logs, Well Completion Logs, and Geological Drilling Logs

E. - Field Raw Data

F. - Sampling and Analytical Procedures (including field and laboratory QA/QC plans utilized for this project). Summary of sampling methods used, detection levels and holding times must be included in this Appendix.

G. - Chain of Custody Forms

H. - Analytical Data, including internal quality control data (lab blanks, lab spikes and lab duplicates) must be included in this appendix.

I. - Correspondence with Federal, State and/or Local Regulatory Agencies. In addition, the names of all approving State regulatory personnel and dates that they accepted drilling techniques, well development, purging, sampling method and any other pertinent coordination/acceptance must be included in this appendix.

J. - References, including tabulation of reduced results from previous Phase II stages, if any.

K. - Biographies of Key Personnel

L. - Geophysical Tracings

M. - Technical Operations Plan and Safety Plan (Utilized on this project)

INSTALLATION RESTORATION PROGRAM
PHASE II - CONFIRMATION/QUANTIFICATION
STAGE 1/2/...

FINAL REPORT

FOR

(BASE AND ADDRESS)

(COMMAND AND ADDRESS)

PREPARED FOR

UNITED STATES AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH LABORATORY (USAF OEHL)
BROOKS AIR FORCE BASE, TEXAS 78235-5501

(DATE)

INSTALLATION RESTORATION PROGRAM
PHASE II - CONFIRMATION/QUANTIFICATION
STAGE 1/2/...

FINAL REPORT

FOR

(INSTALLATION AND ADDRESS)

(COMMAND AND ADDRESS)

(DATE)

PREPARED BY

(COMPANY NAME AND ADDRESS)

USAF CONTRACT NO._____, TASK NO._____

CONTRACTOR CONTRACT NO._____, TASK NO._____

USAF OEHL TECHNICAL MONITOR

TECHNICAL SERVICES DIVISION (TS)

PREPARED FOR

UNITED STATES AIR FORCE
OCCUPATIONAL AND ENVIRONMENTAL HEALTH LABORATORY (USAF OEHL)
BROOKS AIR FORCE BASE, TEXAS 78235-5501

NOTICE

This report has been prepared for the United States Air Force by _____, for the purpose of aiding in the implementation of the Air Force Installation Restoration Program. It is not an endorsement of any product. The views expressed herein are those of the contractor and do not necessarily reflect the official views of the publishing agency, the United States Air Force, nor the Department of Defense.

Copies of this report may be purchased from:

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REPORT DOCUMENTATION PAGE

Illustrated example and a blank DD Form 1473 are attached.

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REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS N/A
2a. SECURITY CLASSIFICATION AUTHORITY N/A	3. DISTRIBUTION/AVAILABILITY OF REPORT DISTRIBUTION IS UNLIMITED
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE N/A	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) N/A	5. MONITORING ORGANIZATION REPORT NUMBER(S) N/A
6a. NAME OF PERFORMING ORGANIZATION CONTRACTOR'S NAME 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION USAF OEHL/TS
6c. ADDRESS (City, State and ZIP Code) CONTRACTOR'S ADDRESS	7b. ADDRESS (City, State and ZIP Code) BROOKS AFB, TEXAS 78235-5501
8a. NAME OF FUNDING/SPONSORING ORGANIZATION SAME AS 7a 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER CONTRACT NUMBER
8c. ADDRESS (City, State and ZIP Code)	10. SOURCE OF FUNDING NOS. PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT NO.
11. TITLE (Include Security Classification) REPORT TITLE	
12. PERSONAL AUTHOR(S) CONTRACTOR'S NAME	
13a. TYPE OF REPORT INTERIM or FINAL 13b. TIME COVERED FROM APPROPRIATE TIME TO	14. DATE OF REPORT (Yr., Mo., Day) DATE 15. PAGE COUNT # PAGES
16. SUPPLEMENTARY NOTATION	

17. COSATI CODES		
FIELD	GROUP	SUB. GR.

18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

ABSTRACT GOES HERE. CONTINUE ON REVERSE.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT. ☐ DTIC USERS ☐	21. ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a. NAME OF RESPONSIBLE INDIVIDUAL USAF OEHL CONTRACT MONITOR'S NAME	22b. TELEPHONE NUMBER (Include Area Code) (512) 536-2158 22c. OFFICE SYMBOL USAF OEHL/TSS

DD FORM 1473, 83 APR EDITION OF 1 JAN 73 IS OBSOLETE.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT
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8a. NAME OF FUNDING/SPONSORING ORGANIZATION / 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (City, State and ZIP Code)	10. SOURCE OF FUNDING NOS.
	PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT NO.
11. TITLE (Include Security Classification)	
12. PERSONAL AUTHOR(S)	
13a. TYPE OF REPORT / 13b. TIME COVERED FROM _____ TO _____	14. DATE OF REPORT (Yr., Mo., Day) / 15. PAGE COUNT
16. SUPPLEMENTARY NOTATION	
17. COSATI CODES: FIELD / GROUP / SUB. GR.	18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
19. ABSTRACT (Continue on reverse if necessary and identify by block number)	
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS ☐	21. ABSTRACT SECURITY CLASSIFICATION
22a. NAME OF RESPONSIBLE INDIVIDUAL	22b. TELEPHONE NUMBER (Include Area Code) / 22c. OFFICE SYMBOL

DD FORM 1473, 83 APR EDITION OF 1 JAN 73 IS OBSOLETE.

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PREFACE

This section should briefly describe the nature of the work covered in the report, organization and people involved, and the time period for the report.

a. Contracting information and purpose of report.

b. Professional responsibilities and roles (contractor personnel)

c. Acknowledgments

d. Period of work and Technical Monitor (e.g., "This work was accomplished between February 1984 and September 1984. Capt John Dow, Technical Services Division, USAF Occupational and Environmental Health Laboratory (USAF OEHL) was the technical monitor.")

Approved

Name, Title and Signature
Contract Program Manager or higher

SUMMARY

This is a brief, executive-type summary of IRP Phase II results of this and any other preceding stages(s), including overall summary tables. After reviewing the summary, a reader should know if the particular IRP Phase II results are of interest and are applicable to the reader's particular needs. Specific items included in the summary are:

1. Location of sites

2. Type and number of tests conducted

3. Number of related tests (e.g., ground penetrating radar)

4. Summary of final results of this and preceding Phase II stages in applicable units

5. Comparison with applicable standards, if any

6. Conclusions based on all Phase II staged efforts

7. Recommendations (see para VI, Recommendations Section for details), in tabular form, such as the following:

Problem Area or Site No.	Recommended Action	Rationale
1		
2		
3		

I. INTRODUCTION

This section should answer who, what, where, when and why-type questions concerning the program. Specific information in the introduction includes:

A. Purpose of program

B. Duration of this and previous programs (stages)

C. Brief history of base and sites, including history of contamination

D. Description of sites, including site-scaled drawings/photographs (using care for security)

E. Identification of the pollutants sampled

F. Identification of the field team

G. Other pertinent information which should be called to the reader's attention. For example: Base overlies sole source aquifer.

II. ENVIRONMENTAL SETTING

A detailed environmental setting is necessary to enable the reader to review the reported program in the proper perspective. Dividing the base into different disciplinary systems and/or subsystems is required. Specifically, this section should include applicable discussion of the following settings:

A. Physical geography

B. Regional geology and hydrogeology

C. General hydrogeology

D. Historic disposal and storage areas, including site descriptions and site-specific geology and geohydrology

E. Historic groundwater problems

F. Location of wells on and off base

G. Any other pertinent information applicable for the particular program.

III. FIELD PROGRAM

This section should include applicable Experimental Designs (Technical Operations Plan) including quality assurance/quality control plans concerning field tests in addition to the field work. This should include detailed site-specific plans. Information in this section includes:

A. Details of development of the field program

B. Implementation of field program

C. Details of instrumentation and/or system used, including schematic diagrams

D. Sampling procedures and sample preservation, including referenced methods

E. A discussion of pertinent facts and conclusions pertaining to the reliability of the sampling procedures, sample representation and sample integrity

F. When applicable, cross-reference this to other sections of the report.

IV. DISCUSSION OF RESULTS AND SIGNIFICANCE OF FINDINGS

This section should be divided into two subsections:

A. Discussion of Results: This subsection should include tabular summaries of pertinent test results and test parameters. Second column confirmation results must be included in this section. These should include what columns were used, conditions and the two different retention times for major components.

Correlate the results of previous stages, if any. Comparison to allowable compliance standards and/or limits should be stated.

1. A discussion of pertinent facts and conclusions pertaining to the reliability of the results of this and previous efforts, if any, and their relation to the contaminants should be presented. Comparison to normal background levels should be mentioned. QA/QC measures should be documented to assess the precision, accuracy, completeness and adequacy of sampling and analysis data.

2. This subsection should be as concise as possible. However, important comments and observations should be fully expressed and should not be limited in favor of brevity.

B. Significance of Findings: The highest technical capabilities and a broad range of experience are needed to derive the information needed in this subsection. The subsection should be introduced with a paragraph stating that, based on the results of the effort, the following information can be derived:

1. Extent of Contamination: Extensive discussion and graphic displays of actual or estimated contamination of each site, or group of sites, should be provided. Contaminated areas, depth of contamination, movement of contamination (plume movement) and total volume of contaminated material exceeding applicable standards and/or guidelines should be tabulated in detail.

2. Evaluation of Contamination: The basis for evaluation, assumptions used and, when possible, calculated health risk assessments should be summarized. If deducible, health risk ratings should be clearly stated.

V. ALTERNATIVE MEASURES

A. This section should detail all the major possible options by site, excluding mitigation and/or cleanup measures, but including monitoring actions.

B. For identified sites requiring future monitoring, proposed monitoring requirements, including cost estimates, method(s) and duration, should be discussed. These costs should be provided in an appendix separate from the report.

VI. RECOMMENDATIONS

A. This multidisciplinary section should provide the highest technical conclusions for the completed program. When applicable, future monitoring recommendations shall be discussed here and tabulated in the Summary section.

B. Recommendations, whether they are straightline extrapolations of either obvious results or highly complicated nonlinear mathematical modeling, should be precise, clear and technically defensible.

C. This section should clearly define the base from which IRP future phases, if any, will be initiated. Hence, prioritizing the sites for the next phase should be recommended.

D. The recommendation section will address each site and list them by categories. Category I will consist of sites where no further action (including remedial action) is required. Data for these sites is considered sufficient to rule out significant public health or environmental hazards. Category II sites are those requiring additional monitoring or work to quantify or further assess the extent of current or future contamination. Category III sites are sites that will probably require remedial actions (ready for IRP Phase IV actions) or long term monitoring. Recommendations for sites in this category shall include any possible influence on sites in Category I and/or II due to their connection to the same hydrological system. Any dependency between sites in different categories shall be clearly stated. The contractor shall include a list of candidate remedial action alternatives including corresponding rationale, that, as a minimum, should be considered in preparing the remedial action plan for a given site. The list shall encompass alternatives that could potentially attain applicable environmental standards. The point(s) of attainment is the location where human exposure could occur (e.g., nearest potable aquifer, ground surface, receiving stream, etc.). For contaminants in potable water that do not have standards, the contractor may use EPA recommended safe levels for non-carcinogens (Health advisory or Suggested-No-Adverse Response Levels) and target levels for carcinogens (1×10^{-6} cancer risk level). Comprehensive cost or technical analyses of alternatives shall not normally be included.* However, in those situations where field survey data indicate immediate corrective action is necessary, the contractor shall present specific, detailed recommendations. For each category, the contractor shall summarize the results of field data (including previously staged efforts), environmental or regulatory criteria, or other pertinent information supporting these conclusions.

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*If required, these analyses will clearly be stated in the delivery order.

ATTACHMENT 4

Proposed Transmittal Letter Concept

to

Regulatory Agencies for IRP Phase II Task Description

1. The staged approach of the IRP Phase II Management Concept is a viable approach to optimize the technical and cost-effective operation of the program. The prioritized cost format, which is a part of the Management Concept, effectively tailors the effort expended for the prioritized sites within a given installation to fit the available funds. Thus, Phase II work, depending on technical complexity and funding availability, may be conducted in several discrete chronological tasks (staged, or staged and tailored, by prioritized cost format). If the applicable federal, state, and local regulatory agencies are not informed about the staging, or staging and tailoring of the Phase II work of the installations in their regulatory domain, they may become concerned about the magnitude and extent of the effort. This is due to the fact that each chronological task of the Phase II effort is discrete and separately funded, thus giving it the appearance of being the entire Phase II effort (that is, all that the Air Force is going to do for Phase II).

2. To minimize misunderstandings between the U.S. Air Force, the applicable regulatory agencies and the public regarding Phase II operational concepts, the USAF OEHL proposes that the MAJCOM forward to each of the applicable regulatory agencies a copy of the contractual task descriptions concerning Phase II work for their comments and inputs. If the prioritized cost format is utilized to tailor the number of sites by priority to fit the available funds, a minimum of two contractual task descriptions will result (a staged task description and a staged and tailored task description). A copy of each task description should be forwarded concurrently to the regulatory agencies with a transmittal letter explaining the operational concept of staging versus staging and tailoring the work.

3. Attached are two proposed transmittal letters to accompany the Phase II task descriptions. One letter is for the staged approach (Attachment 4-1) and the other is for the staged and tailored approach (Attachment 4-2). They should be modified to meet MAJCOM requirements and the requirements of the ALMAJCOM (SG/DE/PA) letter of 16 Dec 83 dealing with community understanding and support for Phase II IRP efforts.

4. The USAF OEHL is proposing that the federal, state, and local regulatory agencies be informed, in writing, as stated above, beginning with the Phase II, Stage 1 task description.

5. Definition of terms used in this package is included in Attachment 4-3.

3 Attachments:

1. 4-1-1 Letter, Staged Approach
2. 4-2-1 Letter, Staged/Tailored Approach
3. 4-3-1 Definitions

ATTACHMENT 4-1-1

Staged Phase II IRP Effort for _____ AFB

U.S./State/Local (Applicable Regulatory Agencies)

1. This is to advise you of the Air Force Installation Restoration Program (IRP) activity at _____ Air Force Base (AFB). The Air Force, as a Department of Defense (DoD) component, was tasked in a December 11, 1981 Defense Environmental Quality Program Policy Memorandum to develop an Installation Restoration Program (IRP) as a basis for response actions on DoD installations and Liability Act (CERCLA) of 1980 (also known as "Superfund"). The IRP will identify and evaluate past DoD hazardous material disposal sites on DoD installations and control the migration of hazardous environmental contamination resulting from such sites.

2. The Air Force IRP is being performed in four phases. Phase I is a records search which identifies and prioritizes those past disposal sites that may pose a hazard to public health or the environment as a result of contaminant migration. Phase II (a confirmation phase) is a multistaged determination of tasks that will develop a data base, execute a remedial action plan and implement needed remedial measures.

3. The U.S. Air Force Occupational and Environmental Health laboratory (USAF OEHL) is in the process of contracting Phase II of the IRP for _____ AFB which is based on a Phase I Report you previously received. Determination of the magnitude and extent of contaminants, as well as their rate of movement around each of the specified sites, will be the final outcome of Phase II work.

4. Because of technical contraints and for cost-effective purposes, the IRP Phase II effort will be accomplished in stages. The first stage consists of verifying the absence or presence of contaminants. If contamination is found, the second and subsequent stages will provide more data with which to determine the contaminant extent and rate of movement. This process allows the elimination of sites early in the process where no contamination is

found and redirection of resources to contaminated sites. Data generated during each stage are utilized to write the contractual task description for succeeding stages. This process may proceed through multiple iterations until sufficient data have been gathered to adequately confirm or deny the contamination, and determine its magnitude and extent as well as its rate of movement, [conducting Phase II effort is equivalent to EPA Site Investigations and Remedial Investigations]. The results of each stage will be reduced in a draft final report, a copy of which will be provided for your comments. After all comments are coordinated, the draft report will be finalized for publication. Attachment 1 is the contractual task description for Stage 1 of Phase II work.

5. It is expected that work on the first stage of IRP Phase II for _____ AFB will commence within the next few weeks. Your timely comments concerning the attached contractual task description will be appreciated.

6. During performance of Phase II work outlined in the attached task description, we will periodically apprise you on the status of this undertaking.

7. If you have any questions concerning this undertaking, please call _____ at _____.

1 Attachment:

Task Description

ATTACHMENT 4-2-1

Staged and Tailored Phase II IRP Effort for _____ AFB

U.S./State/Local (Applicable Regulatory Agencies)

1. This is to advise you of the Air Force Installation Restoration Program (IRP) activity at _____ Air Force Base (AFB). The Air Force, as a Department of Defense (DoD) component, was tasked in a December 11, 1981 Defense Environmental Quality Program Policy Memorandum to develop an Installation REstoration Program (IRP) as a basis for response actions on DoD installations under the provisions of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (also known as "Superfund"). The IRP will identify and evaluate past DoD hazardous material disposal sites on DoD installations and control the migration of hazardous environmental contamination resulting from such sites.

2. The Air Force IRP is being performed in four phases. Phase I is a records search which identifies and prioritizes those past disposal sites that may pose a hazard to public health or the environment as a result of contaminant migration. Phase II (a confirmation phase) is a multistaged determination of contaminants at specific sites on an installation. Phases III and IV are future tasks that will develop a data base, execute a remedial action plan and implement needed remedial measures.

3. The U.S. Air Force Occupational and Environmental Health Laboratory (USAF OEHL) is in the process of contracting Phase II of the IRP for _____ AFB which is based on a Phase I Report you previously received. Determination of the magnitude and extent of contaminations as well as their rate of movement around each of the specified sites will be the final outcome of Phase II work.

4. Because of technical and funding constraints and for cost-effective purposes, IRP Phase II effort will be accomplished in stages and funded through the Prioritized Cost Format (PCF) based on site priority. The first stage consists of verifying the absence or presence of contaminants. If

contamination is found, the second and subsequent stages will determine the contaminant extent and rate of movement. This process allows the elimination of sites early in the process where no contamination is found and redirection of resources to contaminated sites. Data generated during each stage are used to write the contractual task description for succeeding stages. This process may proceed through multiple iterations until sufficient data have been gathered to adequately confirm or deny the contamination and determine its magnitude and extent as well as its rate of movement [conducting Phase II effort is equivalent to EPA Site Investigations and Remedial Investigations]. The results of each stage will be forwarded for your comments. After all comments are coordinated, the draft report will be finalized for publication. Attachment 1 contains the entire task description of Stage 1 of Phase II work. However, because of funding constraints, the PCF principle was utilized to fund the highest prioritized sites listed in Attachment 1. Attachment 2 is the currently funded contractual task description. The remaining unfunded sites are currently listed on the highest priority list for subsequent funding when sufficient funds become available. We expect such funds will become available before the field effort of the current contracted work (Attachment 2) is finalized.

5. It is expected that work on the first stage (Attachment 2) of IRP Phase II for _____ AFB will commence within the next few weeks. Your timely comments concerning the attached contractual task description will be appreciated.

6. During performance of Phase II work outlined in the attachments, we will periodically apprise you on the status of this undertaking.

7. If you have any questions concerning this undertaking, please call _____ at _____.

2 Attachments:

1. Staged Task Description

2. Staged and Tailored Task Description

ATTACHMENT 4-3-1

DEFINITIONS

Staged Approach: A viable technical process in which the required effort to accomplish the Phase II IRP work is discretely divided into independent separate chronological tasks. Generally, the staged approach includes a pollutant screening task followed by a more quantitative task. The more quantitative task is initiated for only those sites with positive screening results.

Prioritized Cost Format (PCF): A funding formula applied to obligate the limited available funds in the current fiscal year to initiate the Phase II work under consideration on the highest priority sites of the staged task within a given installation.

Tailoring: A fund obligation process applied to alter the technical requirements according to prioritized cost format to fit the available funds. The remaining unobligated technical requirements, after alteration, will be listed on the highest priority list for subsequent obligation when sufficient funds become available.

Task: A discrete contractual instrument to conduct a specific technical effort for a corresponding fund ceiling.

Staged and Tailored Approach: A viable independent Phase II process in which the limited available funds are only sufficient to initiate the work on less than the total number of the recommended sites on a given installation. The limited funds are obligated to initiate the work on the highest priority sites.

ATTACHMENT 5

LONG TERM IRP
MONITORING REQUIREMENTS

1. One possible end-point of a Phase II investigation is a decision to continue monitoring a site. This end-point is appropriate when contamination is confirmed but other factors (e.g., migration, toxicity, receptor population, risk, etc.) do not justify an immediate transition to Phase IV or when contamination is not confirmed but continued surveillance is prudent.

2. When the Phase II report recommends this option for a site, the following information must be included in the contractor report:

a. Justification for choosing this option over the "no action" or "remedial action" alternative.

b. Proposed technical details to include sampling frequency, methodology and analytical technique.

3. The recommendation to continue sampling will be presented to regulatory agencies during the Phase II report review process. If concurrence is achieved, the MAJCOM bioenvironmental engineer (BEE) will submit the proposal to the Air Force Installation Restoration Management (AFIRM) Committee for final approval. Once approved, long-term monitoring will be considered a Phase IV activity, performed by the Medical Service.

4. When approval of long term monitoring is granted, the MAJCOM may either implement the monitoring program immediately using available local resources (with analytical support provided by USAF OEHL) or, if a complex monitoring effort is needed, request that USAF OEHL develop a site monitoring plan (SMP) for execution by contract with transition to a base level sampling program if more than a one year program is required. Data produced throughout the long term monitoring will be reduced by USAF OEHL and appropriate recommendations will be given as stated in paragraph 7, below.

5. The SMP will include:

a. Expanded details (standard operating procedures) of the sampling methodology.

b. Quality assurance requirement.

c. Analytical and data reporting requirements.

d. Resource requirements (labor, equipment, materiel).

e. Conditions that could trigger a reevaluation of the long-term monitoring decision.

f. Community relations planning.

6. The contractor may also be required to develop monitoring wells for long-term use, provide initial instruction on sampling technique and assure installed sampling pumps are in proper working order. Once installed, all wells, associated pumps and other equipment will be turned over to the base civil engineer for accountability and maintenance.

7. The decision to perform long term monitoring is subject to revision if subsequent rounds of sampling and data analyses show an adverse change in site status.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE

AD-A161 631

REPORT DOCUMENTATION PAGE

1a. REPORT SECURITY CLASSIFICATION Unclassified	1b. RESTRICTIVE MARKINGS N/A
2a. SECURITY CLASSIFICATION AUTHORITY N/A	3 DISTRIBUTION / AVAILABILITY OF REPORT Approved for public release. Distribution is unlimited.
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE N/A	
4. PERFORMING ORGANIZATION REPORT NUMBER(S) N/A	5. MONITORING ORGANIZATION REPORT NUMBER(S) N/A
6a. NAME OF PERFORMING ORGANIZATION Hazardous Materials Technical Center 6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION Air Force Engineering and Service Center
6c. ADDRESS (City, State, and ZIP Code) Dynamac Building 11140 Rockville Pike Rockville, Maryland 20852	7b. ADDRESS (City, State, and ZIP Code) HQ AFESC/DEVP Tyndall AFB, Florida 32403
8a. NAME OF FUNDING / SPONSORING ORGANIZATION Air Force Engineering and Service Center 8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER DLA 900-82-C-4426
8c. ADDRESS (City, State, and ZIP Code) HQ AFESC/DEVP Tyndall AFB, Florida 32403	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO.

11 TITLE (Include Security Classification)
Air Force Installation Restoration Program Management Guidance

12. PERSONAL AUTHOR(S) Lindenberg, Bernie, Harry Lindenhofen, Jerry Peters, Mark Johnson

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Final Draft	FROM _____ to _____	July 1985	215

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Installation Restoration Program, National Contingency Plan, Remedial Action Plans, Emergency Response, Simple Removal, Long Term Monitoring, ~~Remedial Actions~~, Community Relations Planning.

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

This document consolidates and updates Air Force policy regarding implementation of the Installation Restoration Program. The purpose of the Program is to identify the locations and contents of past hazardous waste disposal sites and to eliminate the hazards they pose to public health in an environmentally responsible manner.

Autorization for the Program and its four phases is described. The Program is illustrated graphically and compared with U.S. EPA's "Superfund" program. Responsibilities of Air Force components are delineated. The types of actions that may be implemented, including emergency responses, simple removals, remedial actions, and long term monitoring, are described. The "Management Guidance" presents site evaluation, planning, decision-making, documentation, administration and community relations procedures to be used by Air Force components in successfully implementing those actions.

20. DISTRIBUTION / AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	21. ABSTRACT SECURITY CLASSIFICATION Unclassified
22a. NAME OF RESPONSIBLE INDIVIDUAL Mr. Bernie Lindenberg	22b. TELEPHONE (Include Area Code) 904/283-6193 22c. OFFICE SYMBOL HQ AFESC/DEVP

DD FORM 1473, 84 MAR 83 APR edition may be used until exhausted. All other editions are obsolete.

SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED

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